```
Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Command line parameters:

-MODEL-frame+ n2p.model -DEV=xlp
-MODEL-frame+ n2p.model -DEV=xlp
-MODEL-frame+ n2p.model -DEV=xlp
-Q=/cgn2 1/USPTO_Bpool_p/US10029345/runat_21062004_122816_4205/app_query.fasta_1.3278
-DB=PIR 78 -OPMT=fastan -SUFFIX=rpr -MINMATCH=0.1 -LOOPCL=0 -LOOPEXT=0
-UNITS-Bits -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi -LIST=45
-DCCALIGN=200 -THR_SCORE=pct -THR_MAX=100 -THR_MIN=0 -ALIGN=15 -MODE=LOCAL
-OUTPMT=pto -NORM=ext -HEAPSIZE=500 -MINLEN=0 -MAXIEN=200000000
-USER-US10029345_@CGN 1 1 78 @runat 21062004_122816_4205 -NOPU=6 -ICPU=3
-NO_MMAP -LARGEQUERY -NEG_SCORES=0 -WAIT -DSPBLOCK=100 -LONGLOG
-DEV_TIMEDUT=120 -WARN_TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPOP=6
-DFW_TIMEOUT=120 -WARN_TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                        Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BBB
 294.5
239.5
294.5
239.5
239.5
239.5
                                                                                                                                                                                                                           Score
                                                                                                                                                                                                                                                                                                 d. No. is the number of results predicted by chance to have a
re greater than or equal to the score of the result being printed,
is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein search, using frame_plus_n2p model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Xgapop 10.0,
Ygapop 10.0,
Fgapop 6.0,
Delop 6.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-029-345A-108_COPY_538_2532
3615
                                                                                                                                                                                                                           Match
                                                                                                                                                                                                                                                                                                                                                                                                                        PIR_78:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   283366 seqs, 96191526 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  June 21,
   11.7
11.6
11.6
11.3
11.3
10.9
9.5
9.5
8.1
6.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         atggcccatgagatgattgg.....tggaaatcattgaggtctcc 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Copyright
                                                                                                                                                                                                                                                                                                                                                            pir1:
pir2:
pir3:
pir4:
                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2004, 12:28:26; Search time 34.7285 Seconds (without alignments)
 GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                           DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Xgapext
Ygapext
Fgapext
Delext
A57126
B57126
A56947
I38890
T46405
T32494
T18915
T21380
T16056
                                                                                                                                                                                                                                                                      SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0.5
7.0
7.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (without alignments)
11051.549 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         566732
                                                                                                                                  hypothetical prote dual specificity p dual specificity p dual specificity p dual specificity p dual specificity p
                                                                       dual
dual
dual
                                                                                                                    dual
                                                                                                                                                                                                                         Description
                                                         hypothetical
                                           nypothetical
                                                                       l specificity I
l specificity I
l specificity I
                                hetical
                             prote
prote
 prote
prote
```

RESULT T15969

•	•	145.5	٠	4	148.5	150.5	151	151.5	154	154.5	157	160	170.5	172	177	178	183.5	185	189	193	195	196	202	202	204	205	\sim	\circ	218.5	K)
		4.0							٠																		٠			
171	171	171	272	1188	574	169	1141	597	1189	5262	209	1132	292	600	580	204	276	807	489	205	283	185	364	142	278	223	866	220	771	330
Ň	N	۲	N	N	N	N	N	_	N	N	۲	N	N	Ŋ	N	N	N	۲	Н	N	N	۳	м	N	N	Ŋ	N	N	N	N
16	52	I36845	41	91	55	89	60	74	85	45	45	40	2	44	43	80	90	53	72	36	UI	19	o	~	_	U١	w	w	U١	w
JlL protein - vari	probable dual spec	dual specificity p	hypothetical prote	extensin-like prot	Wiskott-Aldrich sy	probable dual spec	cGMP-inhibited cAM	probable dual spec	hypothetical prote	ALR protein - huma	probable dual spec	related to protein	hypothetical prote	hypothetical prote	hypothetical prote	hypothetical prote	yrosine-	probable protein-t	dual specificity p	tein tyros	probable protein p	8	tei	pecificity	-specificity	cein tyrosine	C16A3.1 (ecular-mas	hospha	ne

ALIGNMENTS

hypothetical protein F08B1.1 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 20-Sep_1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999 C;Accession: T15969

R;Chissoe, S. submitted to the EMBL Data Library, July 1995 A;Description: The sequence of C. elegans costarReference number: Z18439

cosmid F08B1

A; Reference number: A; Accession: T15969

A;Status: preliminary; translated from GB/EMBL/DDBJ A;Molecule type: DNA A;Residues: 1-619 <CHI> 5 뭐 á Best Local Similarity: Query Match: 문 US-10-029-345A-108_COPY_538_2532 (1-1995) x T15969 (1-619) Score: Alignment Scores: A;Gene: CESP:F08B1.1 A; Experimental source: strain Percent Similarity: A;Introns: 22/2; 57/1; 99/1; 160/3; 252/2; 549/3 A; Cross-references: No.: 421 ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTA----CCTGTTGCCAACATTGGG 367 GGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC-----99 ThrArgLeuProGlnSerLeuSerGlnProCysLeuSerGlnProThrGlyAsp---Gly GlyGlyPheLysGlnPheAlaGlnGlnTyrProGlnLeuCysGluSerSerGluGlyMet EMBL:U23178; NID:g726421; PID:g726422; PIDN:AAC46719.1; CESP:F08B1.1 ce: strain Bristol N2 7.36e-24 515.00 45.32% 31.55% 14.25% Conservative: Mismatches: Indels: Length: Matches: 619 165 72 173 173 118 420

471

```
yProGluAlaIleAlaProSerThr---ProIleLeu------
                                                                                                                                       AÇÇAGCAĞÇAĞTĞĞÇAÇÇĞCCCAĞAĞĞTÇÇÇTTTTATCTCCACTĞCATCĞAAĞTĞĞĞAĞÇ
                                                                                                                                                                                                      {\tt ThrSerValAlaGluLeuProSerProSerThrGluLeuSerArgLeuSerPhe-AsnGluLeuSerArgLeuSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluLeuProSerPhe-AsnGluCProSerPhe-AsnGluLeuProSerPhe-AsnGluCProSerPhe-AsnGluCProSerPhe-AsnGluCProSerPhe-AsnGluCProSerPhe-AsnGluCProSerPhe-AsnGluCProSerPhe-AsnGluCProSerPhe-AsnGluCProSerPhe-AsnGluCProSerPhe-AsnGluCProSerPhe-AsnGluCProSerPhe-AsnGluCProSerPhe-AsnGluCProSerPhe-AsnGluCProSerPhe-AsnGluCProSerPhe-AsnGluCProSerPhe-AsnGluCProSerPhe-As
                                                                                                                                                                                                                                                                  ACCGCC-----AGGCCTTCAGACAGC---CAGAGCAAGCGATTGCATTCGGTCAGA 1460
                                                                                                                                                                                                                                                                                                                             ThrMetAspLeuGlyLeuProHisArgProLysAlaLeuGlyLeuProSerArgIleGly 403
                                                                                                                                                                                                                                                                                                                                                                                         ACCAGT-----CCTGATAAGGAGGAAGCC---AGCATCCCCAAGAAGCTGCAG 1416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGGACCAACAAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAA 1371
                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlyThrSer-----SerGlyThrValAsnValAsnGlyLysArgAsnMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CATGGCTTCTCCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTTCTGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGGCGCTCAGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAG 1191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCAGCGTGCCAGCGTGCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCCGCTGGTA 113:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GluSerSerProSerProSerValSerGluGlySerAlaAlaSerGluPro-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTCCACCCTGTGCCGACTCTGCTACCTCAGAGGCAGGACGACAAGGCCCGTGCATCCC 1071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGCCAAATGAAÇÇTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGAGACGÇÇÇTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTAAGAACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ---ProLysValProLysSerAlaSerSerAsnCysValPheProGlySerThrHisAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlnAlaSerArgProHisArgHisMetAspTyrTyrGlyProSerAspLeuCysPro---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ArgProSerileSerProAsnPheAsnPheMetGlyGlnLeuLeuGluTyrGluAsnVal 277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ValCysileLysGluAspLysAsnPheMetArgIleProValAsnAspSerTyrGlnGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCCGCTCCGCCACCATCGCTATCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LysLeuSerProTyrPheProMetAlaTyrGluPheLeuGluLysCysArgArgAlaGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAAGCCTCCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACTTTATCCCCGAG---TCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTTGTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCT 594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCAACCCGAATTCTTCCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerSerSerThrAlaSerAlaProProSerMetProSerThrSerGluGln 368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ----GluThrSerSerSerAlaAlaSer---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ----IleLysAspHisValLeuAspTyrAsn
                                                                                  434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    197
                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                   Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Gene: GDB:DUSP4; HVH2; MKP-2
A;Gene: GDB:DUSP4; HVH2; MKP-2
A;Cross-references: GDB:433893
A;Map position: 8p21-8p11.2
C;Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity C;Keywords: phosphoprotein; phosphoric monoester hydrolase
C;Keywords: phosphoprotein; phosphoric monoester hydrolase
F;2803-334/Domain: VH1-type dual specificity phosphoprotein phosphatase homology <VH1>
F;280/Active site: Cys (phosphocysteine intermediate) #status predicted
F;286/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                      뭐
                                                                                                                                                              Ş
                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                US-10-029-345A-108_COPY_538_2532 (1-1995) x A56115 (1-394)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Status: preliminary; not compared with conceptual translation A;Molecule type: mRNA A;Residues: 1-394 GUNA A;Cross-references: GB:U21108 C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Accession: A56115
R;Guan, K.L.; Butch, E.
J. Biol. Chem. 270, 7197-7203, 1995
A;Title: Isolation and characterization of
A;Reference number: A56115; MUID:95221370;
A;Accession: A56115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
A56115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ual specificity phosphoprotein phosphatase (EC 3.1.3.-) 4 - human ;Alternate names: dual specificity phosphatase HVH2;Alternate names: dual specificity phosphatase HVH2;Species: Homo sapiens (man);Date: 19-0ct-1995 #sequence_revision 19-0ct-1995 #text_change 24-Apr-1998
39 LeuProSerdly---GlyLysCysLeuLeuLeuAspCysArgProPheLeuAlaHisSer 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1585 ACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCACTCGGATATCTTGGCCCCCCAGACC 1644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             471
                                                                            AlaGlyTyrīleLeuGlySerValAsnValArgCysAsnThrIleValArgArgArg--- 76
                                                                                                                                       ACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTG
                                                                                                                                                                                                                                       CTGGAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAAT 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gMetLys 532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTTGAAA 1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     oSerGly---SerGinSerThrProAlaSerAlaSerSerSerAlaAlaSerArgCysAr 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGGCGGCAGAAGCCAAGTGACAGAGCTGACTCGCGGCGAGCTGGCATGAAGAGAGCCCCC 1854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      r {\tt SerGluProSerPheAspPheSerSerPheGluSerSerSerSerSerIleValVal}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCCACAGAGTCCTCACACTTCTACTCT 1704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TACTCTGCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGC 1794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCTCAGCCA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -LeuThrLeuProThrProAlaAla-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rArgGluValIle----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----AsnPheThrAsnProCysPheAsnSerProIleIleProValAlaSerSerSe
                                                                                                                                                                                                                                                                                                                                                                                                      1.75e-19
443.00
50.79%
31.41%
12.25%
                                                                                                                                                                                                                                                                                                                                                                                                                                Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a novel dual PMID:7535768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ----TCTACGGAGGCAGTGCCAGT
                   -CAGCATTCAGCGAAACATAAG 228
                                                                                                                                                                                                                                                                                                                                                                                                   394
120
74
142
46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SerSerSerSerThrSe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         specific
```

phosphatase,

HVH2,

which

В á 밁 Ş 밁 δ 뮰 Ś

404

Ş 밁

1372

밁 Ś 밁 Ś 밁 Ş 밁 Ś 밁 δ 밁 Ś 밁 Ş 밁 Ś 밁 Ś 밁 Ś 밁 5 밁 S В 5

1192

1072

1012

```
RESULT
S24411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                      ঠ
                                                                                                                                                     밁
                                                                                                                                                                        ð
                                                                                                                                                                                                 밁
                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                   중 유
                                                     밁
                                                                      δ
                                                                                                문
dual specificity phosphoprotein phosphatase (EC 3.1.3.-)
                                                                                                                               1078
                                                                                                                                                                                1018
                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          289
                                                                                                                                                                                                                                                                                                                                                                296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             598 TTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      217 LeuAspAlaLeuGlyIleThrAlaLeuLeuAsnValSerSerAspCysProAsn---His
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  478 ACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GluProLeuAspLeuGlyCysSerSerCysGlyThrProLeuHisAspGlnGlyGlyPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |||
PheCysSerLysThrLysAlaLeuAlaAlaIleProProProValProProSerAlaThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ValGluIleLeuProPheLeuTyrLeuGlySerAlaTyrHisAlaAlaArgArgAspMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGCCT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTCTGTGAAGGAAAATCCACTCTA-------GTCCCTACCTGCATTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTTGACATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCC
                                                                            CTCAGT 1143
                                                                                                                             GTGCCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCG 1137
                                                                                                                                                                                CCCTGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGC
                                                                                                                                                                                                       SerGlyProLeu-------ArgGluArgGlyLysThrProAlaThrPro
                                                                                                                                                                                                                                 AATGAACCTGTCCCTGCTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCA
                                                                                                                                                                                                                                                           AlaThrSerCysAlaAlaGluAlaAlaSer-----Pro
                                                                                                                                                                                                                                                                                   AACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCA
                                                                                                                                                                                                                                                                                                            ACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAG
                                                                                                                                                                                                                                                                                                                                                            ValLeuValHisCysGlnAlaGlyIleSerArgSerAlaThrIleCysLeuAlaTyrLeu
                                                                                                                                                                                                                                                                                                                                                                                                                             GTTCTAGTGCACTGTTTAGCTGGGATCTCCCCGCTCCGCCACCCATCGCTATCGCCTACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerSerTrpPheMetGluAlaIleGluTyrIleAspAlaValLysAspCysArgGlyArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PheGluGlyHisTyrGlnTyrLysCysIleProValGluAspHisHisLysAlaAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ArgThrAspIleCysLeuLeuLysGlyGlyTyrGluArgPheSerSerGluTyrProGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ---AACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerLeuArgGluAspSerThrValSerLeuValValGlnAlaLeuArgArgAsnAlaGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LeuArgSerGlyLeuTyrSerAlaValIleValTyrAspGluArgSerProArgAlaGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AlaLysGlySerValSerLeuGluGlnIleLeuProAlaGluGluGluValArgAlaArg
                                                                                                     ValHisSerAlaProSerSerLeuProTyrLeu-----HisSerProIleThrThrSer
                                                                                                                                                        ThrSerGlnPheValPheSerPheProVal----SerValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGC---TTACCTGTTGCCAACATT---GGGCCA
                                                                                                                                                                                                                                   1017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               176
                                                                                                      391
                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                    957
                                                                                                                                                                                                                                                                                                                                       897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                156
                                                                                                                                                                                                                                                            346
                                                                                                                                                                                                                                                                                                                                                                                                                   295
              S
                                        문
                                                             Ś
                                                                                          뭐
                                                                                                              Ś
                                                                                                                                           밁
                                                                                                                                                                 á
                                                                                                                                                                                           밁
                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                               片
                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                   문
                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Alignment Scores:
                                                                                                                                                                                                                                                                                                                           163
                 472
                                                                                          133
                                                                                                                  397
                                                                                                                                            113
                                                                                                                                                                    337
                                                                                                                                                                                                                       283
                                                                                                                                                                                                                                                                        223
                                        151
                                                                                                                                                                                                                                                73
```

```
N;Alternate names: 3CH134 protein; protein-tyrosine-phosphatase erp, nonreceptor C;Species: Mus musculus (house mouse)
C;Bate: 19-Feb-1994 #sequence revision 02-May-1994 #text_change 11-Jun-1999
C;Accession: A54681; S24411
R;Roguchi, T:; Metz, R.; Chen, L.; Mattei, M.G.; Carrasco, D.; Bravo, R.
R;Roguchi, T:; Metz, R.; Chen, L.; Mattei, M.G.; Carrasco, D.; Bravo, R.
Mol. Cell. Biol. 13, 5195-5205, 1993
A;Title: Structure, mapping, and expression of erp, a growth factor-inducible gen/A;Accession: A54681
A;Accession: A54681
A;Accession: A54681
A;Accession: A54681
A;Molecule type: DNA
A;Residues: 1-367 <NOG>
A;Charles, C.H.; Abler, A.S.; Lau, L.F.
Oncogene 7, 187-190, 1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Title: CDNA sequence of a growth factor-inducible immediate early gene and characteriz. A;Reference number: $24411; MUID:92158357; PMID:1741163
A;Recession: $24411
A;Recession: $24411
A;Molecule type: mRNA
A;Residues: 1-367 <CIRA-
A;Cross-references: EMBL:X61940; NID:949735; PIDN:CAA43944.1; PID:949736
A;Cross-references: EMBL:X61940; NID:949735; PIDN:CAA43944.1; PID:949736
C;Genetics:
A;Gene: exp
A;Introns: 123/1; 172/1; 245/1
C;Superfamily: dual specificity phosphoprotein; phosphoric monoester hydrolase
C;Keywords: immediate-early protein; phosphoprotein; phosphoric monoester hydrolase
C;Reywords: immediate-early protein; phosphoprotein; phosphoric monoester hydrolase
C;Reywords: immediate-early protein; phosphoprotein phosphatase homology <VH1>
F;258/Active site: Cys (phosphocysteine intermediate) #status predicted
F;264/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-029-345A-108_COPY_538_2532 (1-1995) x S24411 (1-367)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             103 GTGGAATACATACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    53 ArgArgAlaLysGlyAlaMetGlyLeuGluHisIleValProAsnAlaGluLeuArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      13 LeuArgAlaLeuLeuArgGluGlyAlaAlaGlnCysLeuLeuLeuAspCysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PheAlaPheAsnAlaGlyHisIleAlaGlySerValAsnValArgPheSerThrIleVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTTGCCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTG-----GAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlyArgLeuLeuAlaGlyAlaTyrHisAlaValValLeuLeuAspGluArgSerAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAGCGAAGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAA 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTGGTGGCTCTGGGAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTT
                                                                                                                                                                                                                                                                                                                                                                      AlaArgSerThrGlnValPhePheLeuGlnGlyGlyTyrGluAlaPheSerAlaSerCys 132
                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTC
                                                                                                   ThrSerValProAspSerAlaGluSerGlyCysSerSerCysSerThrProLeuTyrAsp
                                                                                                                                                                                                                               ProGluLeuCysSerLysGlnSerThr-----ProThrGlyLeuSerLeuProLeuSer 150
                                                                                                                                                                                                                                                                                                        CCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuAspGlyAlaLysArgAspGlyThrLeuAlaLeuAlaAlaGlyAlaLeuCysArgGlu
-GGGCCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7.07e-19
433.00
46.43%
31.59%
11.98%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length:
Matches:
                                                                                                                                                                     TGCTTACCTGTTGCCAACATT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       367
115
54
151
44
                                                                                                                                                                                                                                                                                                                                                                                                                                          396
                                            525
                                                                                                                                                                                                                                                                                                        450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    characterize
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               encoda
```

밁

171

GlnGlyGlyProValGluIleLeuSerPheLeuTyrLeuGlySerAlaTyrHisAlaSer

```
Rimuda, M.; Schlegel, W.; Arkinstall, S.
submitted to the EMBL Data Library, January 1995
A; Description: Pathways regulating CL100 gene expression in pituitary cells.
A; Reference number: S52265
A; Reference number: S52265
A; Status: preliminary
A; Molecule type: mRNA
A; Residues: 1-367 < MUD>
A; Cross-references: EMBL: X84004; NID: g642264; PIDN: CAA58828.1; PID: g642265
C; Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity phosphoric monoester hydrolase
F; 258 / Active site: Cys (phosphocysteine intermediate) #status predicted
F; 264 / Binding site: substrate phosphate (Arg) #status predicted
                                          Best Local S
Query Match:
DB:
    US-10-029-345A-108_COPY_538_2532
                                                                Percent Similarity:
Best Local Similarity:
                                                                                                   Score:
                                                                                                                              Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                      RESULT 4

S52265

dual specificity phosphatase (EC 3.1.3.-) 1 - rat
N;Alternate names: protein-tyrosine-phosphatase CL100;
C;Species: Rattus norvegicus (Norway rat)
C;Date: 07-May-1995 #sequence_revision 21-Jul-1995 #tex
C;Accession: S52265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                  Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                   No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HisProThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CATCCCCCCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ValPheAsnPheProValSer---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCCCTCAGTCCAÇÇCTGTGCCGACTCTGCTACCTCAGAGGCAGGAGGACAAAGGÇÇÇGTG 1065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ---AlaGluAlaGlySerProAlaMetAlaValLeuAspArgGlyThrSerThrThrThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        СТОБАВЛАВСССАЛАТВААССТВТСССТВСТВТСТСАВЛЕВСТВВАСАВЛАЛАВСВАВАСВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAGAAGATTAAGAACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCAC 945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerGlnVal-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlnArgArgSerIleIleSerProAsnPheSerPheMetGlyGlnLeuLeuGlnPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LeuAlaTyrLeuMetArgThrAsnArgValLysLeuAspCluAlaPheGluPheValLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATCGCCTACATCATGAAGAAGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AlaGlyGlyArgValPheValHisCysGlnAlaGlyTleSerArgSerAlaThrTleCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          lysAlaAspIleSerSerTrpPheAsnGluAlaIleAspPheIleAspSerIleLysAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ArgLysAspMetLeuAspAlaLeuGlyIleThrAlaLeuIleAsnValSerAlaAsnCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProAsn---HispheGluGlyHisTyrGlnTyrLysSerIleProvaiGluAspAsnHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGT
                                                 2.88e-18
423.00
46.05%
31.34%
11.70%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      351
    (1-1995) x S52265
                                               Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   --LeuAlaProHisCysSer------
    (1-367)
                                                                                                                                                                                                                                                                                                                                                                      #text_change
                                 367
115
54
148
50
                                                                                                                                                                                                                                                                                                                                                                                             protein-tyrosine-phosphatase,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----IleProVal
                                                                                                                                                                                                                                                                                                                                                                       22-Jun-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           337
                                                                                                                                                                                                    specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                645
                                                                                                                                                                                                                                                                                                                                                                                                TOT
                               S
                                                                  문
                                                                                          Ş
                                                                                                                         맑
                                                                                                                                                   δõ
                                                                                                                                                                                    밁
                                                                                                                                                                                                            Ő
                                                                                                                                                                                                                                             맑
                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                     뫄
                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                          문
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뮍
                                                                                                                           307
                                                                                                                                                                                    287
                                                                                                                                                                                                               817
                                                                                                                                                                                                                                             267
                                                                                                                                                                                                                                                                                                      247
                                                                                                                                                                                                                                                                                                                                                               227
                                                                                                                                                                                                                                                                                                                                                                                            637
                                                                                                                                                                                                                                                                                                                                                                                                                        208
                                                                                                                                                                                                                                                                                                                                                                                                                                                      577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             268 CAAAGCTCCCAAGATGTTGCCTCTCTCTCAGACTGTTTTTCTCACTGTACTTCTGGGT 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  53
ThrThrThrValPheAsnPheProValSer---
                    AGCGAGACGCCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTCAGAGGCAGCAGCACAA 1056
                                                  -----AlaGluAlaGlySerProAlaMetAlaValLeuAspArgGl
                                                                             СТБСТБСАССТББАБААБССААЛТБААССТБТСТССТБСТБТСТСАБАБББТББАСАБААА 996
                                                                                                                   GlnPheGluSerGlnVal---
                                                                                                                                        GACTATGAGAAGAAGATTAAGAACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAG
                                                                                                                                                                    TTTGTGAAAGAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 43
                                                                                                                                                                                                                               ThrIleCysLeuAlaTyrLeuMetArgThrAsnArgValLysLeuAspGluAlaPheGlu
                                                                                                                                                                                                                                                          ACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGA
                                                                                                                                                                                                                                                                                        IleLysAspAlaGlyGlyArgValPheValHisCysGlnAlaGlyIleSerArgSerAla
                                                                                                                                                                                                                                                                                                           GCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGAATCTCCCGCTCCGCC
                                                                                                                                                                                                                                                                                                                                                 AspAsnHisLysAlaAspileSerSerTrpPheAsnGluAlaIleAspPheileAspSer 246
                                                                                                                                                                                                                                                                                                                                                                      GACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAA 696
                                                                                                                                                                                                                                                                                                                                                                                                          AlaAsnCysProAsn---HisPheGluGlyHisTyrGlnTyrLysSerIleProValGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                      TATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAAT 636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HisAlaSerArgLysAspMetLeuAspAlaLeuGlyIleThrAlaLeuIleAsnValSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTTAAATGCCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LeuTyrAspGlnGlyGlyProValGluIleLeuSerPheLeuTyrLeuGlySerAlaTyr 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ProLeuSerthrSerValProAspSerAlaGluSerGlyCysSerSerCysSerThrPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----TCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AlaLeuCysArgGluAlaArgSerThrGlnValPhePheLeuGlnGlyGlyTyrGluAla 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PheSerAlaSerCysProGluLeuCysSerLysGlnSerThrProMetGlyLeuSerLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCTCTCGTTGTTTCCCTCGCCTCTGTGAAGGAAAA------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAACTG-----GAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAG 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GluArgSerAlaAlaLeuAspGlyAlaLysArgAspGlyThrLeuAlaLeuAlaAlaGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ArgArgArgAlaLysGlyAlaMetGlyLeuGluHisIleValProAsnThrGluLeu---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTGGAATACAATACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----ArgGlyArgLeuLeuAlaGlyAlaTyrHisAlaValValLeuLeuAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGCGAAGGTTGCAA------CAGGACAAAGTGTTAATTACAGAGCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              {\tt PheAlaPheAsnAlaGlyHisileValGlySerValAsnValArgPheSerThrIleVal}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTGGTGGCTCTGCTGGAAAGTGGAAAGAGTGCTGCTAATTGATAGCCGGCCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeuArgAlaLeuLeuArgGluArgAlaAlaGlnCysLeuLeuAspCysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -GGGCCAACCCGAATTCTTCCCCAATCTTTATCTTGGCTGCCAGCGA
                                                                                                           -----LeuAlaProHisCysSer-----
                                                                                                                                         936
                                                                                                                                                                      306
                                                                                                                                                                                                    876
                                                                                                                                                                                                                                                             816
                                                                                                                                                                                                                                286
                                                                                                                                                                                                                                                                                         266
                                                                                                                                                                                                                                                                                                                    756
                                                                                                                                                                                                                                                                                                                                                                                                            226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         32
```

•

```
Avalesis Home sapiens (man)

NyAlternate names: protein-tyrosine-phosphatase (EC 3.1.3.-) 1 - human

NyAlternate names: protein-tyrosine-phosphatase CL100; protein-tyrosine-phosphatase, nor C;Species: Home sapiens (man)

C;Date: 25-Peb-1994 #sequence_revision 02-May-1994 #text_change 11-Jun-1999

C;Accession: S29090; A33052

R;Keyse, S.M.; Emalie, E.A.

Nature 359, 644-647, 1992

A;Title: Oxidative stress and heat shock induce a human gene encoding a protein-tyrosine A;Reference number: $29090; MUID:93024952; PMID:1406996

A;Accession: S29090; MUID:93024952; PMID:1406996

A;Accession: S29090; MUID:93024952; PMID:1406996

A;Accession: S29090; MUID:93024952; PMID:1406996

A;Accession: S29090; MUID:93024952; PMID:1406996

A;Accession: Signature stress and heat shock induce a human gene encoding a protein-tyrosine photein succession in Saudes and the stress induced photein sequence enumber: AS3052; MUID:94148864; PMID:8106404

A;Accession: A33052 BMID:94148864; PMID:8106404

A;Accession: A33052; MUID:94148864; PMID:8106404

A;Accession: A33052; PMID:94148864; PMID:8106404

A;Accessio
                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                         밁
                                                                                             S
                                                                                                                                                       밁
                                                                                                                                                                                      र्
                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-029-345A-108_COPY_538_2532 (1-1995) x S29090 (1-367)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           υ
       397
                                                      113
                                                                                                                                                                                                     283
                                                                                                                                                                                                                                                                                                                                                                                                      163 AAGCGAAGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    103 GTGGAATACAATACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATG 162
                                                                                                                                                                                                                                                       73
                                                                                                                                                                                                                                                                                                                                                       53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3
     CCTGGCCTCTGTGAAGGAAAA----
                                                    AlaArgAlaAlaGlnValPhePheLeuLysGlyGlyTyrGluAlaPheSerAlaSerCys 132
                                                                                                                                                                                                                                                       GlyArgLeuLeuAlaGlyAlaTyrHisAlaValValLeuLeuAspGluArgSerAlaAla 92
                                                                                                                                                                                                                                                                                                      CATAAGGTTGACATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGAT
                                                                                                                                                                                                                                                                                                                                                     ArgArgAlaLysGlyAlaMetGlyLeuGluHisIleValProAsnAlaGluLeuArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                     PheAlaPheAsnAlaGlyHisIleAlaGlySerValAsnValArgPheSerThrIleVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LeuArgAlaLeuLeuGlyGluArgAlaAlaGlnCysLeuLeuLeuAspCysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTGGTGGCTCTGGAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGGCCCGTGCATCCCGCCAGC
                                                                                                     AAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTC
                                                                                                                                                                                                     GTTGCCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTG-----GAG
                                                                                                                                                    LeuAspGlyAlaLysArgAspGlyThrLeuAlaLeuAlaAlaGlyAlaLeuCysArgGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4.38e-18
420.00
46.69%
31.22%
11.62%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             367
113
56
159
34
     ----TCCACTCTA 426
                                                                                                     396
                                                                                                                                                                                                                                                                                                        282
                                                                                                                                                                                                                                                                                                                                                                                                         222
                                                                                                                                                                                                     336
                                                                                                                                                                                                                                                                                                                                                       72
                                                                                                                                                                                                                                                                                                                                                                                                                                                        52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        32
                                                                                                                                                                                                                     dual specificity phosphoprotein phosphatase (EC 3.1.3.-) 2 - human N.Alternate names mitogen-induced nuclear tyrosine phosphatase; phosphatase C;Species: Homo sapiens (man) C;Date: 03-Nov-1995 #sequence_revision 02-Jul-1996 #text_change 11-Jun-1999 C;Accession: A57126 R;Rohan, P.J.; Davis, P.; Moskaluk, C.A.; Kearns, M.; Krutzsch, H.; Siebenli Science 259, 1763-1766, 1993 Science 259, 1763-1766, 1993 A;Title: PAC-1: a mitogen-induced nuclear protein tyrosine phosphatase. A;Reference number: A57126; MUID:93206122; PMID:7681221 A;Accession: A57126
A;Science 259, acid sequence not shown
A;Gene: GDB:DUSP2
A;Cross-references: GDB:139200
A;Map position: 2q11-2q11
C;Function:
C;Function: Catalyzes the hydrolysis of peptidyl-phosphoserine, -phosphothreonine, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
A57126
                                                                                                                             A;Cross-references:
C;Genetics:
                                                                                                                                                                           A; Molecule type: mRNA
A; Residues: 1-314 < ROH >
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360 ProIle 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       892 ATTAAGAACCAGACTGGAGCATCAGGGCCAAAGGCAAACTCAAGCTGCTGCACCTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           712 GGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          232 AspileSerSerTrpPheAsnGluAlaIleAspPheIleAspSerIleLysAsnAlaGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           652 AAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 532 GAGCTGATACAGCAGAATGGGATTGGTTAATGTGTTAAATGCCAGCTATACCTGTCCAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   153 ValProAspSerAlaGluSerGlyCysSerSerCysSerThrProLeuTyrAspGlnGly 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCCGIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GlyArgValPheValHisCysGlnAlaGlyIleSerArgSerAlaThrIleCysLeuAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AspMetLeuAspAlaLeuGlyIleThrAlaLeuIleAsnValSerAlaAsnCysProAsn 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AsnPheProValSerIleProValHisSerThrAsnSerAlaLeuSerTyrLeuGlnSer 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GluAlaGlySerProAlaMetAlaValLeuAspArgGlyThrSerThrThrThrValPhe 339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGCCAAATGAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ---HisPheGluGlyHisTyrGlnTyrLysSerIleProValGluAspAsnHisLysAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGGCCAACCCGAATTCTTCCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATT-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProGluLeuCysSerLysGlnSerThrProMetGlyLeuSerLeuProLeuSerThrSer 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Val------Ala
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TyrLeuMetArgThrAsnArgValLysLeuAspGluAlaPheGluPheValLysGlnArg
                                                                                                                                                       GB:L11329; NID:g559539;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ·CCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGG 1059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1065
                                                                                                                                                       PIDN:AAA50779.1; PID:g292376
                                                                                                                                                                                                                                                                                                                                                       M.; Krutzsch, H.; Siebenlist,
                                                                                                                                                                                                                                                                                                                                                                                                                                                        phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    591
                                                                                                                                                                                                                                                                                                                                                                                                                                                          얁
```

activated

Kelly

U.; Kell

```
Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best I
Query
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-029-345A-108_COPY_538_2532 (1-1995) x A57126 (1-314)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual spec (Keywords: nucleus; phosphoprotein; phosphoric monoester hydrolase F;140-160/Region: nuclear location signal F;180-311/Domain: VH1-type dual specificity phosphoprotein phosphatase homology F;257/Active site: Cys (phosphocysteine intermediate) #status predicted F;263/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              No.:
                                          269
                                                                                                          249
                                                                                                                                             706
                                                                                                                                                                            229
                                                                                                                                                                                                             646
                                                                                                                                                                                                                                                                                  604
                                                                                                                                                                                                                                                                                                                 196
                                                                                                                                                                                                                                                                                                                                                                                                                    484
                                                                                                                                                                                                                                                                                                                                                                                                                                                       156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                    LeuAlaTyrLeuMetGlnSerArgArgValArgLeuAspGluAlaPheAspPheValLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25
                                             ATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAA 825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                70 GAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCCCACATTTTG 129
                                                                                                                TCCAATGGATGTGTTCTAGTGCACTGTTTTAGCTGGGATCTCCCGCCTCCGCCATCGCT 765
                                                                                      MetValGluiieSerAlaTrpPheGlnGluAlaIleGlyPheiieAspTrpValLysAsn
                                                                                                                                                                                         TGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCC
                                                                                                                                                                                                                                                                          CCCGAGTCTCATTTC-----
                                                                                                                                                                                                                                                                                             AlaCysClylleThrAlaValLeuAsnValSerAlaSerCysPro------
                                                                                                                                                                                                                                                                                                                      CAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATC
                                                                                                                                                                                                                                                                                                                                                               IleLeuProTyrLeuPheLeuGlySerCysSerHisSerSerAspLeuGlnGlyLeuGln
                                                                                                                                                                                                                                                                                                                                                                                              ATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                 AspLysthrSerArgSerAspSerArgAlaProvalTyrAspGlnGlydlyProvalGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlnGlyCysCysProAspleuCysSerGluAlaProAlaProAlaLeuProProThrGly 155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----acctgcatticicagccttgcttacctgtigccaacatt----gggccaacccga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCTCGTTGTTTCCCTGGCCTCTGT----GAAGGAAAATCCACTCTAGTCCCT------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AlaSerValAlaGluLeuArgProAspSerProAlaHisValLeuLeuAlaAlaLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAAGAIGTTGCCTCTCTCTCAGAC-----TGTTTTCTCACTGTACTTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCGAAACATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AlaValLeuAlaCysLeuLeuProAspArgAlaLeuArgThrArgLeuValArgGlyGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AlaAlaArgProValProTrpAsnAlaLeuLeuArgArgArgAlaArgGlyProProAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GluargThrLeuLeuLeuAspCysArgProPheLeuAlaPheCysArgArgHisValArg
                                                                                                                                                                                                                          ----AsnHisPheGluGlyLeuPheArgTyrLysSerIleProvalGluAspAsnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5.75e-18
418.00
50.83%
35.97%
11.56%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -TTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----AlaArgAlaValValLeuAspGluGlySer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                             ----CTGCGTGTGCCTGTGAATGACAGCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          314
109
45
                      288
                                                                                                                                                                                                                            228
                                                                                                                                                                                                                                                             645
                                                                                                                                                                                                                                                                                             210
                                                                                                                                                                                                                                                                                                                               603
                                                                                                                                                                                                                                                                                                                                                                                                                                   175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      483
                                                                                                                                                                                                                                                                                                                                                                                                  543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       specificity
Ś
                               밁
                                                              Ś
                                                                                               문
                                                                                                                              Ş
                                                                                                                                                                   밁
                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                     뫄
                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                      ДЬ
                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Cross-references: GB:L11330
C;Styperfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity C;Styperfamily: dual specificity phosphoric monoester hydrolase
C;Keywords: nucleus; phosphoprotein; phosphoric monoester hydrolase
F;180-311/Domain: VH1-type dual specificity phosphoprotein phosphatase homology <VH1-
F;257/Active site: Cys (phosphocysteine intermediate) #status predicted
F;263/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-029-345A-108_COPY_538_2532 (1-1995) x B57126 (1-314)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-314 <ROH>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R;Rohan, P.J.; Davis, P.; Moskaluk, C.A.; Kearns, M.; Krutzsch, H.; Siebenlist, Science 259, 1763-1766, 1993
A;Title: PAC-1: a mitogen-induced nuclear protein tyrosine phosphatase.
A;Reference number: A57126; MUID:93206122; PMID:7681221
A;Accession: B57126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      dual specificity phosphatase (EC 3.1.3.-) 2 - mouse
N;Alternate names: mitogen-induced nuclear protein-tyrosine-phosphatase PAC-1
C;Species: Mus musculus (house mouse)
C;Date: 03-Nov-1995 #sequence_revision 03-Nov-1995 #text_change 24-Apr-1998
C;Accession: E57126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
B57126
dual sp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    No.:
                                                              433
                                                                                                                                385
                                                                                                                                                                                                                                                                                                                                         217
                                                                                                                                                                                                                                                                                                                                                                                                           172
                                                                                                                                                                                                                                                                                                                                                                                                                                                       130 GAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGG---------
                                                                                                                                                                                                                                                                                                                                                                        65
                                                                                                                                                                                                                                                                                                                                                                                                                                          45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25
           AlaGluAsnSerAsnSerAspProArgValProIleTyrAspGlnGlyGlyProValGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  826
                                                                             GlnThrTyrCysProAspLeuCysSerGluAlaProAlaGlnAlaLeuProProAlaGly
                                                                                                              TCTCGTTGTTTCCCTGGCCTCTGT---GAAGGAAAATCCACTCTAGTCCCT------
                                                                                                                                               HisGluMetArgGlyGlyProThrThrValCysPheLeuArgGlyGlyPheLysSerPhe
                                                                                                                                                                                AAGAGCTTC------AACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTC
                                                                                                                                                                                                                 AlaSerValThrGluLeuProProAspGlyProAlaHisLeuLeuLeuAlaAlaLeuGln
                                                                                                                                                                                                                                                  CAAGATGTTGCCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAG
                                                                                                                                                                                                                                                                                     Leu-----AlaArgAlaValValLeuAspGluSerSer
                                                                                                                                                                                                                                                                                                                   GCGAAACATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTTACGATCAAAGGTCC
                                                                                                                                                                                                                                                                                                                                                    AlaAlaLeuAlaCysLeuLeuProAspArgAlaLeuArgAlaArgLeuGlyArgGlyGlu
                                                                                                                                                                                                                                                                                                                                                                                                                        AlaAlaArgProValProTrpAsnAlaLeuLeuArgArgArgAlaProGlyThrProAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GluargThrLeuLeuLeuAspCysArgProPheLeuAlaPheCysArgSerHisValArg 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCCCACATTTTG 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ThrGlnVal 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGAAGATT
                                            -ACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATT---GGGCCAACCCGA 483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2.03e-17
409.00
51.18%
36.03%
11.31%
                                                                                                                                                                                                                                                                                                                                                                                       ----TTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      314
107
45
113
32
```

Ś 밁 Ś 밁 Ś В Ś Дb Ś 뭐 δ Б Ś 밁 Ş В Ś 뮍 Ş 밁

ATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG

432 135 384 115 336 95 276 84

*

```
dual specificity phosphatase (EC 3.1.3.-) HVH2 - rat

N,Alternate names: mitogen-activated protein kinase phosphatase 2
C;Species: Rattus norvegicus (Norway rat)
C;Date: 18-Aug-1995 #sequence_revision 18-Aug-1995 #text_change 17-Mar-1999
C;Accession: A56947
R,Misra-Press, A.; Rim, C.S.; Yao, H.; Roberson, M.S.; Stork, P.J.S.
J. Biol. Chem. 270, 14597-14596, 1995
A;Title: A novel mitogen-activated protein kinase phosphatase. Structure, expression, an A;Reference number: A56947; MUID:95301550; PMID:7782322
A;Accession: A56947
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-393 <mils>
C;Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity conocester hydrolase
C;Superfamily: dual specificity phosphoprotein phosphatase homology <VH1>
F;779/Active site: Cys (phosphocysteine intermediate) #status predicted
F;285/Binding site: substrate phosphata (Arg) #status predicted
                                                                                                                                                                                                                                                                                                 Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
A56947
                                                                                                                                                        ঠ
                                                                                                                                                                                                                             ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ર્
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
   유
                                                                  밁
                                                                                            S
                                                                                                                                  밁
                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                               US-10-029-345A-108_COPY_538_2532 (1-1995) x A56947
                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   844 TCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATT
                                  226
                                                                                                   166
                                                                                                                                                               106 GAATACAATACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    604 CCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   93
                                                                    76
                                                                                                                                                                                                                                  46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TrpPheGlnGluAlaIleSerPheIleAspSerValLysAsnSerGlyGlyArgValLeu
                                  AAGGTT----
                                                                  ||||||
ArgArg---AlaLysGlySerValSerLeuGluGlnIleLeu-----ProAlaGluGlu
                                                                                                   CGAAGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACAT
                                                                                                                                                                                                 LeuGlyLeuLeuSerGlyGly-----LysCysLeuLeuLeuAspCysArgProPheLeu
                                                                                                                                                                                                                  GTGGCTCTGCTGGAAAGTGGAACGGAAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerProAsnPheSerPheMetGlyGlnLeuLeuGlnLeuGluThrGlnVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerHisArgValArgLeuAspGluAlaPheAspPheValLysGlnArgArgGlyValIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCTATCGCCTACATCATGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlyLeuPheHisTyrLysSerIleProvalGluAspAsnGlnMetValGluIleSerAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GluValArgProCysAlaLeuAlaSerThrArgLeuSerSerSerThrMetThrGlnPro
                                                                                                                                AlaHisSerAlaGlyTyrTleArgGlySerValAsnValArgCysAsnThrTleValArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTA
                                                                                                                                                                                                                                                                                                     1.81e-16
393.50
46.02%
29.56%
10.89%
                                                                                                                                                                                                                                                                                                             Length:
Matches:
Conservative:
Mismatches:
Indels:
                                    GACATTGATTGCAGTCAGAAGGTTGTAGTTTACGAT
                                                                                                                                                                                                                                                                   (1-393)
                                                                                                                                                                                                                                                                                                 393
115
64
153
153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      311
                                                                  92
                                                                                                     225
                                                                                                                                                                  165
                                                                                                                                                                                                                                  105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     603
                                                                                                                                  75
                                                                                                                                                                                                   នូ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      195
dual specificity phosphoprotein phosphatase (EC 3.1.3.-) 5 - human N;Alternate names: dual specificity phosphatase B23; dual-specificity phosphatase C;Specites: Homo sapiens (man) C;Date: 16-Feb-1996 #sequence_revision 01-Mar-1996 #text_change 11-Jun-1999 C;Accession: I38890; A55313 R;Kwak, S.P.; Dixon, J.E.
                                                                                                   RESULT
                                                                                                                                                                             S
                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                         ঠ
                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뮰
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   日
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                   밁
                                                                                                                                                                                                                                                 1057
                                                                                                                                                                                                                  367
                                                                                                                                                                                                                                                                                    356
                                                                                                                                                                                                                                                                                                                                                   345
                                                                                                                                                                                                                                                                                                                                                                                                                   328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     388
                                                                                                                                                                                                                                                                                                                   997
                                                                                                                                                                                                                                                                                                                                                                                  937
                                                                                                                                                                                                                                                                                                                                                                                                                                                   877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      268
                                                                                                                                                   HisserProIleThrThrSerProSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ||| :::: || || || ::: AspAsnHisLysAlaAspIleSerSerTrpPheMetGluAlaIleGluTyrIleAspAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HisAlaAlaArgArgAspMetLeuAspAlaLeuGlyIleThrAlaLeuLeuAsnValSer
                                                                                                                                                                                    GACAGCCCGCTGGTACAGGCGCTCAGT 1143
                                                                                                                                                                                                                                            AGGCCCGTGCATCCCGCCAGCGTGCCCAGCGTGCAGCGTGCAGCCGTCGCTGTTAGAG 1116
                                                                                                                                                                                                                                                                                                                                                                                                                   GlnPheGluSerGlnValLeuThrThrSerCysAlaAlaGluAlaAlaSer-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACTATGAGAAGAAGATTAAGAACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTTGTGAAAGAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerAspCysProAsn---HisPheGluGlyHisTyrGlnTyrLysCysIleProValGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTAATGTGTTAAATGCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LeuHisAspGlnGlyGlyProValGluIleLeuProPheLeuTyrLeuGlySerAlaTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ANACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTGCAGGTGGGTTTGCTGAGTTCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AlaArgArgGluSerProGlyGlyGlnHisSerValAlaGlyArgAlaAlaLeuArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAAAGCTCCCAAGATGTTGCCTCTCTCTTCAGACTGTTTTCTCACTGTACTTCTGGGT
                                                                                                                                                                                                                  PheProVal---SerValGlyValHisAlaAlaProSerAsnLeuProTyrLeu----
                                                                                                                                                                                                                                                                                  ThrProThrPro
                                                                                                                                                                                                                                                                                                                 AGCGAGACGCCCCCCAGCCCCTGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAA
                                                                                                                                                                                                                                                                                                                                                                                  CTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ThrīleCysLeuAlaTyrLeuMetMetLysLysArgValArgLeuGluGluAlaPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProValProProSerThrAsnGluSerLeuAspLeuGlyCysSerSerCysGlyThrPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCTTGCTTACCTGTTGCCAACATT --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerGluTyrProGluPheCysSerLysThrLysAlaLeu-----AlaAlaIleProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AsnAlaGluArgThr-----AspIleCysLeuLeuLysGlyGlyTyrGluArgPheSer
                                                                                                                                                                                                                                                                                                                                                   -----LeuArgGluArgGlyLysAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGGCCAACCCGAATTCTTCCCCAATCTTTATCTTGGCTGCCAGCGA
                                                                                                                                                                                                                                                                                    ThrSerGlnPheValPheSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       247
                                                                                                                                                                                                                                                                                                                                                                                                                    344
                                                                                                                                                                                                                                                                                                                                                                                                                                                     936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      916
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      387
```

```
Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: GDB:385447
A;Cross-references: GDB:385447
A;Map position: 10q25-10q25
C;Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificit C;Keywords: phosphoprotein; phosphoric monoester hydrolase
C;Keywords: phosphoprotein; phosphoric monoester hydrolase
F;186-317/Domain: VH1-type dual specificity phosphorotein phosphatase homology <VH1>
F;263/Active site: Cys (phosphocysteine intermediate) #status predicted
F;269/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-029-345A-108_COPY_538_2532 (1-1995) x I38890 (1-384)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         J. Biol. Chem. 270, 1156-1160, 1995
A;Title: Multiple dual specificity protein tyrosine phosphatases are express A;Reference number: A55432; MUID:95138103; PMID:7836374
A;Accession: I38890
A;Mclecule type: mRNA
A;Residues: 1-384 <RESS
A;Cross-references: EMBL:U16996; NID:9642012; PIDN:AAB06261.1; PID:9642013
A;Experimental source: placenta
R;IShibashi, T.; Bottaro, D.P.; Michieli, P.; Kelley, C.A.; Aaronson, S.A.
A;Title: A novel dual specificity phosphatase induced by serum stimulation (A;Accession: A55313; MUID:95050849; PMID:7961985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Molecule type: mRNA
A;Residues: 1-8,'GHV',12-70,'R',72-104,'F',107-362,'RCLPTQQSQSAEALWQRPNPAKTGMEESAQPQEQL
A;Cross-references: GB:U15932; NID:g606971; PIDN:AAA64693.1; PID:g606972
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Gene: GDB:DUSP5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Genetics:
                                                       454
                                                                                         147
                                                                                                                                                                                               367
                                                                                                                                                              127
                                                                                                                                                                                                                                 107
                                                                                                                                                                                                                                                                   316
                                                                                                                                                                                                                                                                                87 ValvaiLeuAspGinGlySerArgHisTrpGlnLysLeuArgGluGluSerAlaAlaArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Scores:
                                                                                                                                                                                                                                                                                                                                                                       67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15
   ---ProvalvalAsnvalSerTyrArgProAlaTyrAspGlnGlyGlyProvalGluile
                                                TTACCTGTTGCCAACATT-----
                                                                      SerGlnGluLysIleGiuSerGluArgAlaLeuIleSerGlnCysGlyLys-----
                                                                                                                                        GlyGlyTyrGluThrPheTyrSerGluTyrProGluCysCysValAspValLysProIle
                                                                                                                                                                         GGTGGGTTTGCTGAGTTCTCGTTGTTTCCCTGGCCTCTGT--------
                                                                                                                                                                                                       |||:::|||
|ValValLeuThrSerLeuLeuAlaCysLeuProAlaGlyProArgValTyrPheLeuLys
                                                                                                                                                                                                                                                    GTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCT-----
                                                                                                                                                                                                                                                                                                                 GTAGTTTACGAȚCAAAGCTCCCAAGATGTTGCCTCTCTCTCAGACTGTTTTCTCACT
                                                                                                                                                                                                                                                                                                                                                   ProAspGluAlaAlaArgAlaArgLeuLeuGlnGluGlyGlyGlyGlyValAlaAlaVal
                                                                                                                                                                                                                                                                                                                                                                                    GACATTGATTGCAGTCAG------AAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                        AlaArgGlyGlyAlavai---------SerAiaArgTyrValLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AlaAlaSerAsnValArgGlySerLeuAsnValAsnLeuAsnSerValValLeuArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AATACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGG 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LeuArgLysGluAlaAlaAlaArgCysValValLeuAspCysArgFroTyrLeuAlaPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGCTGGAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1.85e-14
360.50
43.67%
27.65%
9.97%
                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          384
107
62
143
75
                                       GGGCCAACCCGAATT
                                                                                                                                                                                                                                              -GITCACCIGCITGCA 366

    VH1-type dual specificity

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             expressed
                                       486
     182
                                                                                                                                                                                                              126
                                                                        163
                                                                                                          453
                                                                                                                                                                             408
                                                                                                                                                                                                                                                                                 106
                                                                                                                                                                                                                                                                                                                                                      98
                                                                                                                                                                                                                                                                                                                                                                                        255
                                                                                                                                                                                                                                                                                                                                                                                                                         99
                                                                                                                                                                                                                                                                                                                                                                                                                                                           231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         regu.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sho
US-10-029-345A-108_COPY_538_2532 (1-1995) x T46405
                                                               Query Match:
                                                                              Percent Similarity:
Best Local Similarity:
                                                                                                                                                      Alignment
                                                                                                                                                                                  A; Note: DKFZp43401321.1
                                                                                                                                                                                                                                                                                                                                  C;Accession: T46405
R;Blum, H.; Bauersachs, S.; Mewes,
submitted to the Protein Sequence I
                                                                                                                                        Fred
                                                                                                                                                                                                                                                    A; Molecule type: mRNA
A; Residues: 1~303 < AAA>
                                                                                                                                                                                                                                                                                                                                                                hypothetical protein DKFZp43401321.1 - human
C;Species: Homo sapiens (man)
C;Date: 04-Feb-2000 #sequence_revision 04-Feb-2000 #text_change 21-Jun-2002
C;Accession: T46405
                                                                                                                                                                                                                                                                                                        A;Reference number: Z23034
A;Accession: T46405
                                                                                                                                                                                                                                       A;Cross-references:
                                                                                                                                                                                                                                                                                       A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                              ;Experimental source: adult testis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                    No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 282 LysGlnPheArgLeuLysGluAlaPheAspTyrIleLysGlnArgArgSerMetValSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGTGCCGACTCTGCTACCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AlaProvalProThrHisSerThrValSerGluLeuSerArgSerProValAla-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAAGCGAGAGACGCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        {\tt LeuGInThrLeuSerProAspMetGInGlyAlaTyrCysThrPheProAlaSerValLeu}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGCACCTGGAGAAGCCAAAT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProAsnProGlnProProSerCysGlnGlyGluAlaAlaGlySerSerLeuIleGlyHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProAsnPheGlyPheMetGlyGlnLeuLeuGlnTyrGluSerGluIleLeuProSerThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 :::::::::||||||||||:::
PheGlnGluAlaIleAspPheIleAspCysValArgGluLysGlyGlyLysValLeuVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HisLeuHisTyrLysTrpIleProvalGluAspSerHisThrAlaAspIleSerSerHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LeuHisileThrAlaLeuLeuAsnValSerArgArgThrSerGluAla---CysMetThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAAATTTTGCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LeuProPheLeuTyrLeuGlySerAlaTyrHisAlaSerLysCysGluPheLeuAlaAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAG
                                                                                                                                                                                                                                   EMBL: AL137704
                                                1.6e-13
345.00
48.54%
32.69%
9.54%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Database,
                                                                                                                                                                                                                                                                                                                              H.W.; Gassenhuber, J.; Wiemann,
Database, January 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1041
                                                                                                                                                                                                         clone DKFZp43401321
                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
 (1-303)
                                   303
101
49
109
50
```

341

846

261 726 241 999

301

906 321

Ś 밁 5 밁 S 뮍 S 밁 Ś B δ В Ş 밁 Ş 밁

Ś

266 ATCAAAGCTCCCAAGATGTTGCCTCTCTCTCTTCAGACTGTTTTCTCACTGTACTTCTGG 325

```
RESULT 11
73.494
C; Species: Caenorhabditis elegans
C; Species: Caenorhabditis elegans
C; Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #te:
C; Accession: T3.494
R; Geisel, C.; Wamsley, P.
submitted to the EMBL Data Library, December 1997 A;Description: The sequence of C. elegans cosmid A;Reference number: 221178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                청 음
                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                              음 성
                                                                                                                                                                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                     문
                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                    1061
                                                                                                                                                                                                                   1121 GCCCGCTGGTACAGGCGCTCAGT 1143
                                                                                                                                                                                                                                                                                                                                                     1001 AGACGCCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTCAGAGGCCAGCAGGACAAAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              464 CCAACATT---GGGCCAACCCGAATTCTTCCCCAATCTTTATCTTGGCTGCCAGCGAGATG
:::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29
                                                                                                                                                                                                                                                                                   CCGTGCATCCCGCCAGCGTGCCCAGCGTGCCGAGCCGTCGCTGTTAGAGGACA 1120
                                                                                                                                                                                                                                                                                                                     ysThrProAlaThrPro-------ThrSerGlnPheValPheSerPheP
                                                                                                                                                                                                                                                                                                                                                                                                                   TGCACCTGGAGAAGCCAAATGAACCTGTCCCCTGCTCTCAGAGGGTGGACAGAAAAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATGAGAAGAAGATTAAGAACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    alLysGlnArgArgSerIleIleSerProAsnPheSerPheMetGlyGlnLeuLeuGlnP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGAAAGAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAGCCTCCAATGGATGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         laAlaArgArgAspMetLeuAspAlaLeuGlyIleThrAlaLeuLeuAsnValSerSerA 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         isAspGlnGlyGlyProValGluIleLeuProPheLeuTyrLeuGlySerAlaTyrHisA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        alProProSerAlaThrGluProLeuAspLeuGlyCysSerSerCysGlyThrProLeuH 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCCCTACCTGCATTTCTCAGCCT------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ----AlaGlyArgSerArgCysLeuCysSerGluSer-GlnGlyGlyTyrGluArgPheS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             erProlleThrThrSerProSer
                                                                                                                                                                                                                                                    roVal---SerValGlyValHisSerAlaProSerSerLeuProTyrLeu-----HisS
                                                                                                                                                                                                                                                                                                                                                                                     ------ArgGluArgGlyL
                                                                                                                                                                                                                                                                                                                                                                                                                                                       heGluSerGlnValLeuAlaThrSerCysAlaAlaGluAlaAlaSer------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      leCysLeuAlaTyrLeuMetMetLysLysArgValArgLeuGluGluAlaPheGluPheV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         spCysProAsn---HisPheGluGlyHisTyrGlnTyrLysCysIleProValGluAspA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             erSerGluTyrProGluPheCysSerLysThrLysAlaLeuAlaAlaIleProProProV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCTA-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       snHisLysAlaAspIleSerSerTrpPheMetGluAlaIleGluTyrIleAspAlaValL
                    C05B10
                                                                                   #text_change 29-Oct-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGC---TTACCTGTTG
                                                                                                                                                                                                                                                                                                                     278
                                                                                                                                                                                                                                                                                                                                                      1060
                                                                                                                                                                                                                                                                                                                                                                                                                      1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          640
                                                                                                                                                                                                                                                    295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               41
                                                                                                                                                                                                                                                                                                                                                                                                                                                       254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Accession: T32494
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-365 <GBI>
A;Experimental source: EMBL:AF036685; PIDN:AAB88308.1; GSPDB:GN00022;
A;Experimental source: strain Bristol N2; Clone C05B10
C;Genetics:
                                              á
                                                                                                         Ś
                                                                                                                                             밁
                                                                                                                                                                             Ś
                                                                                                                                                                                                                 멁
                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Gene: CESP:C05B10.1
A;Map position: 4
A;Introns: 22/2; 46/2; 74/3; 163/2;
                   밁
                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alignment Scores Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-108_COPY_538_2532 (1-1995) x T32494 (1-365)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Match:
                                                                                                                                                   201
                                                                                                                                                                                                                                                    475
                                                                                                                                                                                                                                                                                                                                                      146
                                                                                                                                                                                                                                                                                                                                                                                    397
                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                   161
                                                                                                                                                                                                                                                                                                                    457
                                                                                                                                                                                                                                                                                                                                                                                                                      126
                                                                                                                                                                                                                                                                                                                                                                                                                                                     358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      298 TCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       259 GTTTACGATCAAAGCTCCCAAGAT--------GTTGCCTCTCTCTCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       139 AATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTACA 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      86 IleProGlyAspSerGluGlnAspGluGlnLeuSerAlaAlaLeuAlaArgAsnLeuLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     46 ArgLeuArgLeuProAlaLeuLeuGlnArgArgLeuMetGlyGlySerMetArgLeuSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ||| :::||
12 GlyGluGluIleSerAlaGluGlnPheAsnArgIlePheHisGlu-----ArgAsnVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        66 ThrValProAspLeuLysAspLeuAsnAsnSerProAspGlnCysProGluValLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30 IleValLeuAspCysArgSer---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19 GGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAAAGTGGAACGGAAAAAGTG
                                                                                                                                               ValLeuLysLysTyrSerIleSerHisValIleAsnValThrSerAsnLeuProAsnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AsnLeuThrLysPhePheProGluAlaIleSerPheIleAspAspAlaArgArgAsnAsp
                                                                                                                                                                                                                                                                                   AsnLeuAsnGlnLeuArgLeuGluGlyGluAspGlnGlyGlyLysGlnArgAlaGluPhe
                                                  ANAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAAGCCTCCAAT
                                                                                                                ---GACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                     ProThrLeuArgAspAlaAlaAspGluAsnTrpAsnThrThrPheGlnMetAsnSerMet
                                                                                                                                                                                  CTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCT
                                                                                                                                                                                                                   ProValLysLeuThrAsnPheLeuTyrLeuGlyAsnAlaGluThrAlaLysAsnArgAsp
                                                                                                                                                                                                                                                CCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAG
                                                                                                                                                                                                                                                                                                                     CCTGTTGCCAACATTGGG-----
                                                                                                                                                                                                                                                                                                                                                     ProGlyGlnAlaSerGlyGlnGln------AlaSerSerGlyProLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                     CCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerAsnHisTyrArgHisPheValLeuGlyGluProValLysThrLeuLeuSerGlnPhe
                                                                                   PheGluGluAspProAsnMetArgTyrLeuArgIleSerAlaAspAspAsnAlaSerHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1.93e-10
294.50
45.62%
25.08%
8.15%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             204/2; 248/1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative: Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----AsnGlyAspSerValLysArgAlaAsn
                                                                                                                                                                                                                                                                                                                       287/2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           365
83
68
137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CESP: C05B10.1
```

297 85 258 65

357

594 200 180 474 160 456 145 396 45

```
Ş
                                                                    밁
                                                                                              Ś
                                                                                                                            멍
                                                                                                                                                    Ś
                                                                                                                                                                                  밁
                                                                                                                                                                                                           5
                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                        뫄
                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                  US-10-029-345A-108_COPY_538_2532 (1-1995) x T18915 (1-272)
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best ]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Status: preliminary; translated from A;Molecule type: DNA A;Residues: 1-272 <WIL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Gene: CESP:C04F12.8
A;Map position: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Cross-references: EMBL:Z81461; PIDN:CAB03837.1; GSPDB:GN00019; CESP:C04F12.8
A;Experimental source: clone C04F12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  submitted to the EMBL Data Library, A;Reference number: Z19044 A;Accession: T18915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 12
T18915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Introns: 53/1; 84/3; 204/2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hypothetical protein C04F12.8 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999 C;Accession: T18915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Genetics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 No.:
                                                                                 754 GCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTAC
                                                                                                                                                                                                634 AATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAG
                                                                                                                                                                                                                                                        574 AGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTG
                                                                                                                                                                                                                                                                                                               514 CGAGATGTTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTTATGTGTTAAATGCC
                                                                                                                          82
                                                                                                                                                                                  62
                                                                                                                                                                                                                                         43
                                                                                                                                                                                                                                                                                                                                          4 AsnValGlyValLeuGlyGlnMetSerGluIleAsnAspHisLeuTyrLeuSer---Gly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            321
HisTyrvallysAlaAlaArgProlleIleArgProAsnValGlyPheTrpLysGlnMet
                     AGATTTGTGAAAGAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTC
                                                        AlaSerLeuValMetIleTyrLeuValLysHisGluHisMetThrLeuArgGlnAlaTyr
                                                                                                             AAAGCAAAAGCCTCCAATGGATGTTCTAGTGCACTGTTTAGCTGGAATCTCCCGGCTCC 753
                                                                                                                                                                                                                                                                                   AlaGlyValLeuLysProAspLysIleLysGlnArgLysIleAsnMetIleValAsnAla
                                                                                                                                                                     GluAspHisProTyrAlaArgLeuAsnGluHisPheAspValValAlaAspLysIleArg
                                                                                                                                                                                                                          ThrThrGluGlubroSer---ThrTyrMetGlnGlyValAspThrMetLysIleArgIle
                                                                                                                                                                                                                                                                                                                                                                     LeuGlyLeuAsnSerAsnArgValGlyValSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATT-----AAGAACCAGACTGGAGCATCA 915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAG 891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |||:::||||||
TyrLeuMetLysThrGluMetCysThrLeuAspSerAlaTyrGluTrpValGlnLysArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                 4.25e-07
239.50
47.84%
30.20%
6.63%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          November 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                    272
77
45
110
23
   141
                              873
                                                                                    813
                                                                                                                101
                                                         121
                                                                                                                                                                        81
                                                                                                                                                                                                   693
                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                          633
                                                                                                                                                                                                                                                                                     42
                                                                                                                                                                                                                                                                                                                573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 771
```

```
Ś
                                                  밁
                                                                             5
                                                                                                              뫄
                                                                                                                                   Ś
                                                                                                                                                                       멂
                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                         Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                 US-10-029-345A-108_COPY_538_2532 (1-1995) x T21380 (1-226)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R;McMurray, A.

R;McMurray, A.

R;Mcference number: Z19415
A;Accession: T21380
A;Accession: T21380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Genetics:
A;Gene: CESP:F26A3.4
                                                                                                                                                                                                                                                                                                                                                                                              Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                              Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: EMBL:Z78419; p
A;Experimental source: clone F26A3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: DNA
A; Residues: 1-226 <WIL>
                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Introns: 117/2; 150/3; 186/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Map position:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   hypothetical protein F26A3.4 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                       718
                                                                                                                                                                                         538 ATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGAC
                                                                                                                                                                                                                                                 478 ACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTG
                                                                                                              54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1045
                                                                                                                                                                                                                     214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTTCTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCACCATCGCCTATCGCCTACATC
                                         TyrProHisLeuGluLeuGlnSerAspGlnIleGlnAlaLeuIleAlaAspGlyGlyLys 93
                                                                                                                                TTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATT 657
                                                                                                                                                          MetLysLysHisLysileThrHisIleIleAsnAlaThrThrGluValProAsnLeuArg 53
                                                                   TTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGT 717
                                                                                                  GACAGGCTGGAAGACAGCAATAAGCTTCAAGCGTTCCTTCTCTCTG 1206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ---SerSerLeuAlaThrSerSerLeuArgArgAlaTyrSerProSerSerLeuProAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AlaSerLysGinArgAlaPheSerAlaSerThrTyrArgProSerValSerSerAla---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCAGCAGGACAAAGGCCCGTGCATCCCCGCCAGCGTG---CCCAGCGTGCCCAGCGTGCAG 1101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LysMetValGlnThrProGluCysAspMetProlleProAspValTyrAlaAspAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ArgArgMetGlnIleAsnArgGluIleSerArgHisSerLeuProSerAlaGlnSerSer 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----CAGAAAAGCGAGACGCCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTCAGAG 1044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAGCTGCTGCACCTGGAGAAGCCAAATGAAÇÇTGTCÇÇTGCTGTÇTCAGAGGGTGGA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTGGACTATGAGAAGAAGATTAAGAACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTC 933
                                                                                                                                                                                                                                                                                                                  9.77e-07
233.50
49.55%
28.57%
6.46%
2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PIDN:CAB01700.1; GSPDB:GN00019;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  August
                                                                                                                                                                                                                                                                                                                                             Conservative: Mismatches:
                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
                                                                                                                                                                                                                                                                                                                                  Indels:
                                                                                                                                                                                                                                                                                                               226
64
47
80
33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ------ThrAlaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CESP: F26A3
                                                                                                                                                                                                                        33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   990
```

Qy 589 AAGCCTGACTTTATCCCCGAGTCTCATTCCTGCGTGTGCCTGTGAATGACAGCTTTTGT 648	Qy 529 AAGGAGCTGATACAGCAGAATGGGATTGGTTTATGTGTTAAATGCCAGCTATACCTGTCCA 588	Qy 478 ACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAAC 528 ::::: :::	-10-029-345A-108_COPY_538_2532 (1-1995) x T16056 (1-	Alignment Scores: 2.97e-06	838 ACTATATCTCCAAACTTCAATTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAG 134 MetValargProAsnLeuGlyPheTrpArgGlnLeuIleAlaTyrGluGlnAsnValLys 898 AACCAGACTGGAGCATCAGGGCCAAAGAGCAACTCAAGCTGCTGGACCTGGAC-AAG 898 AACCAGACTGAAGACTCAGGGCCAAAGAGCAACTCAAGAGCACTGCTGCCTGC	Db 94 ValLeuValHisCysValAlaGlyValSerArgSerAlaSerIleCysLeuAlaPheLeu 113 Oy 778 ATGAAGAGATGGACATGTCTTTAGATGAAGCTTTACAGATTTTGTGAAAGAAA
Qy 718 GTTCTAGTCCACTGTTTAGCTGGATCTCCCCCACCATCGCTACGCTACATC 777	8 TTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCCAATGGATGT	Qy 598 TTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATT 657	68 ThrSerAspLysGLyIleAspTyrThrLeuSerAlaMetSerIleAsnProAsnLeuSer	US-10-029-345A-108_COPY_538_2532 (1-1995) x T39698 (1-330) QY	106 106 108 109 109 119 119 119 119 119 119 119 119	Db 66 AlaLysIleThrGlnTyrPheGluProValValLysTyrIleGluAspAlaLysGlnGln 85 Oy 709 AATGGATGTTTTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCTATC 768 :::::::: .

Search con Job time	D Qy	DЬ
Search completed: June 21, 2004, 12:41:49 Job time : 46.7285 secs	838 ACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTAT 882	147 MetLysGluAsnAsnTrpAsnThrGluGluAlaLeuSerHisIleAsnGluArgArgSer 166
		_

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                   -MODEL=frame+_n2p.model -DEV=xlp
-Q=/cgn2 1/USPTO_spool_p/US10029345/runat_21062004_122815_4177/app_query.fasta_1.3278
-Q=/cgn2 1/USPTO_spool_p/US10029345/runat_21062004_122815_4177/app_query.fasta_1.3278
-DB=Swissprot_42 -QPMT=fastan -SUFFIX=rsp -MINMATCH=0.1 -LOOPCL=0 -LOOPEXT=0
-UNITS=bits -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi -LIST=45
-DCCALIGN=200 -THR_SCORE=pct -THR_MAX=100 -THR_MIN=0 -ALIGN=15 -MODE=LOCAL
-OUTFMT=pco -NORM=ext -HARSIZE=50 -MILLEN=0 -MAXLEN=2000000000
-USER=US10029345 @CGN 1 1 33 @runat_21062004 122815_4177 -NCPU=6 -ICPU=3
-NO_MMAP -LARGEQUERY -NEG_SCORES=0 -MAIT -DSPBLOCK=100 -LONGLOG
-DEV_TIMEDUT=120 -MARN_TIMEOUT=30 -THREADS=1 -XGAPEXT=0.5 -FGAPOP=6
-DEV_TIMEDUT=120 -MARN_TIMEOUT=30 -THREADS=1 -XGAPEXT=0.5 -FGAPOP=6
-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OM nucleic -
                                                                                                                                                                                                                                                                                                                                                              Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Command line parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Post-processing: Minimum Match
     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 08
                                                               3406
1326
1302
5152
471.5
469
466.5
465.5
445.5
4444
439.5
                                                                                                                                                                                                                                             Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           eq
Beq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein search, using frame_plus_n2p model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           length:
                                                                                                                                                                                                                                             Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Xgapop 10.0,
Ygapop 10.0,
Fgapop 6.0,
Delop 6.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-029-345A-108_COPY_538_2532
3615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               June 21, 2004, 12:28:21 ; Search time 20.9747 Seconds (without alignments) 9905.280 Million cell upda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           141681 segs, 52070155 residues
  14.2
13.0
13.0
112.9
112.9
112.3
112.3
111.6
111.6
111.6
                                                                                                                                                                                                                                                                                                                                                            SwissProt_42:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              atggcccatgagatgattgg.....tggaaatcattgaggtctcc 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000000000
  Match 100%
first 45 summaries
                                                                                                                                                                                                                                               멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Xgapext
Ygapext
Fgapext
Delext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                     DUS4 HUMAN
DUS4 CHICK
DUS4 RAT
DUS1 MOUSE
DUS1 RAT
DUS1 HUMAN
                                                                                                                                                                              DUSG_HUMAN
DUSB_HUMAN
DUSB_MOUSE
VHP1_CAEEL
                                                                                                                  DUSA_MOUSE
DUS6_MOUSE
DUS6_RAT
           DUS2_HUMAN
                                                                                                                                                                                                                                               IJ
                                                                                                                                                       DUSA_HUMAN
                                                                                                                                                                    DUS6 HUMAN
                                                                                                                                                                                                                                                                                    SUMMARIES
2_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7.0
                                                                                                                                                                                         Q9by84 homo 1
Q13202 homo 1
Q09112 mus m
                                                               Q9pw71
Q62767
P28563
                                                                                                                                                      Q10038
Q16828
Q9y6w6
                                                                                                   Q64346
Q13115
                                                                                                                            Q9ess0
Q9dbb1
                                                                                                                                                                                                                                             Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cell updates/sec
                                                              5 homo sapien
1 gallus gall
7 rattus norv
3 mus musculu
                          homo sapien
                                                                                                                                                                               mus musculu
caenorhabdi
                                                                                                                              mus musculu
                 homo sapien
                                                                                                                   rattus
                                                                                                                                                       homo sapien
                                                                                                                                                                    homo
                                                                                                                                                                   sapien
                                                                                                                                                                                                         sapien
                                                                                                                                                                                                                    sapien
                                                                                                                   vzon
```

ALIGNMENTS

PRESULT 1 DUSG HH DUSG H AC Q9BY84 AC MASSA AC MASSA AC TISSUE AC TISUE AC TISSUE AC TISSU DUSG HUMAN STANDARD; PRT; 665 AA. Q9BY84; Q9COG3; 28-FEB-2003 (Rel. 41, Created) 28-FEB-2003 (Rel. 41, Last sequence update) 10-CCT-2003 (Rel. 42, Last annotation update) Dual specificity protein phosphatase 16 (EC 3.1.) (Mitogen-activated protein kinase phosphatase 7) phosphatase 7) (MKP-7). DUSP16 OR MKP7 OR KIAA1700. MEDIINE=21082932; PubMed=11214970; Nagase T., Kikuno R., Hattori A., Kondo Y., Okumura K., Ohara O.; "Prediction of the coding sequences of unidentified human genes. XIY The complete sequences of 100 new cDNA clones from brain which code for large proteins in vitro."; DNA Res. 7:347-355(2000). "MKP-7, a novel mitogen-activated protein kinase phosphatase, functions as a shuttle protein."; J. Biol. Chem. 276:39002-39011(2001). Homo sapiens (Human). Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates; J. Biol. Chem. [2] This SWISS-PROT entry is copyright. It is produced through a collaboration TISSUE=Brain; SEQUENCE FROM N.A. MEDLINE=21486429; PubMed=11489891; SEQUENCE FROM N.A. NCBI_TaxID=9606; phosphate. SUBCELLULAR LOCATION: Cytoplasmic and nuclear. SIMILARITY: Belongs to the protein-tyrosine phosphatase family. Non-receptor class dual specificity subfamily. SIMILARITY: Contains 1 rhodanese domain. Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo. .1.3.48) .7) (MAP) (EC 3.: 3.1.3.16) protein

140

```
Alignment Scores:
Pred. No.:
Score:
Score:
Percent Similarity:
Best Local Similarity:
                                                       S
                                                                                  밁
                                                                                                          Ś
                                                                                                                                  밁
                                                                                                                                                      Ś
                                                                                                                                                                                  밁
                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                Best Local S:
Query Match:
DB:
                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                               US-10-029-345A-108_COPY_538_2532 (1-1995) x DUSG_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                               REMBL; AB052156; BAB40814.1;
REMBL; AB052156; BAB40814.1;
REMBL; AB051487; BAB21791.1; ALT_INIT.
RHSSP; Q16828; IMKP.
RGP; Q16828; IMKP.
RGP; Q16828; IMKP.
RGP; G0:0005737; C:cytoplasm; TAS.
RGO; G0:0005737; C:cytoplasm; TAS.
RGO; G0:0005737; C:cytoplasm; TAS.
RGO; G0:0005731; P:protein phosphatase activity; TAS.
RGO; G0:0004721; F:protein phosphatase activity; TAS.
RGO; G0:0004721; P:dephosphorylation; TAS.
RGO; G0:0045209; P:leptomycin B-sensitive MAPK Phosp.
RGO; G0:0045204; P:MAPK nucleus export; TAS.
RGO; G0:0045204; P:MAPK nucleus export; TAS.
RINterPro; IPR000340; DS phosphatase.
RINterPro; IPR000340; DS phosphatase.
RINterPro; IPR000347; TYR_phosphatase.
RINTERPRO; IPR000387; TYR_phosphatase.
RINTERPRO; IPR000387; TYR_phosphatase.
R Pfam; PF00782; DSPc; 1.
R Pfam; PF00781; Rhodanese; 1.
R PFAMRT; SM00459; RHOD; 1.
R SMART; SM00459; RHOD; 1.
R SMART; SM00459; RHOD; 1.
R PROSITE; PS50056; TYR_PHOSPHATASE_7; 1.
R PROSITE; PS50056; TYR_
                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@sisb-sib.ch).
                                       101
                                                                                                         241
                                                                                   18
                                                                                                                                                        181
                                                                                                                                                                                                      121
                                                                                                                                 61
                                                                                                                                                                                41
                                                                                                                                                                                                                              21
                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                            щ
                          GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                     CysSerGinLysValValTyrAspGinSerSerGinAspValAlaSerLeuSerSer
                                                                                                                                                                                                                   SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                              AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                               3.6e-206
3406.00
99.85%
99.70%
94.22%
                                                                                                                                                                                                                                                                                                                                                                                                                                           73101
                                                                                                                                                                                                                                                                                                                                                                                                                                         MW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                RHODANESE.
PROTEIN-TYROSINE I
PHOSPHOCYSTEINE IN
SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                      1BD853FF08460DFF CRC64;
                                                                                                                                                                                                                                                                                                                                                    Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MAPK phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                           E PHOSPHATASE.
INTERMEDIATE
                                                                                                                                                                                                                                                                                                                  (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                             (BY
                                                                         100
                                                  360
                                                                                                                        80
                                                                                                                                              240
                                                                                                                                                                      60
                                                                                                                                                                                                                    40
                                                                                                                                                                                                                                                                  20
                                  В
                                                    Ş
                                                                                Д
                                                                                                Ş
                                                                                                                        В
                                                                                                                                               Ş
                                                                                                                                                                      Ъ
                                                                                                                                                                                             ·S
                                                                                                                                                                                                                         뮍
                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                     ద
                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                       Вþ
                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                    뮍
                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                 Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                             д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                      1261
                                                                                                                                                                                                                                               1141
                                                                                                                                                                            401
                                                                                                                                                                                                                                                                                                                                             1021
                                                                                                                                                                                                                                                                                              1081
                                                                                                                                                                                                                          381
                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                      341
                                                                                                                                                                                                                                                                                                                                                                    321
                                                                                                                                                                                                                                                                                                                                                                                         961
                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                         901
                                                                                                                                                                                                                                                                                                                                                                                                                                                               281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                              GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                    TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC 1320
                                                                                                                                                                TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC 1260
                                                                                                                                                                                                                             AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                          CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                       GinThrdiyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn
                                                                                                                                                                                                                                                                                                                                                                                                                     CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
```

1200

400

1140

360 1080 340 1020 320 960

900 300

280 840 260 780 240 720 220 660 200 600 180

```
DUS8_HUMAN
Q13202;
                                                                                                                                                                                                                             15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
15-MAR-2004 (Rel. 43, Last annotation update)
Dual specificity protein phosphatase 8 (EC 3.1.3.48)
[Dual specificity protein phosphatase & Num Fi
                                                                                                                                                                                  "hVH-5: a protein tyrosine phosphatase abundant in brailinactivates mitogen-activated protein kinase.";
J. Neurochem. 65:1823-1833(1995).
-I- FUNCTION: This protein shows both activity toward the phosphate as well as with serine/threonine-protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                (Dual specificity protein phosphatase hVH-5) DUSP8 OR VH5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HUMAN
                                                                                                                                                                                                                                                                                                                                                                                            Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa;
                   ÷
                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
               phosphate.
TISSUE SPECIFICITY: Abundant in brain, heart a
SIMILARITY: Belongs to the protein-tyrosine ph
Non-receptor class dual specificity subfamily.
SIMILARITY: Contains 1 rhodanese domain.
                                                                                                          similarity).
CATALYTIC ACTIVITY: Protein tyrosine tyrosine + phosphate.
CATALYTIC ACTIVITY: A phosphoprotein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGGGCCTGGCATGAAGAGAGCCCCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ThrGluSerSerHiePheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACCACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                           Chordata;
                                                                                                            A phosphoprotein + H(2)0 =
                                                                                                                                                                                                                                                                                                                                                                                          Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  625
                                                                                                                                                 phosphate
                                                                                                                                                                                                                                                                               Clemens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₽
                                                                                                                                                                                                                                                              i z
                                                        phosphatase
                                                                           and
                                                                                                                                                                                                                                                              brain that
                                                                                                              þ
                                                                                                                                                   +
                                                                           skeletal
                                                                                                            protein
                                                                                                                                                 H(2)0 =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         œ
E
                                                                                                                                                                                    tyrosine-protein
n phosphate (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3.1.3.
                                                        al muscle.
family.
                                                                                                                                                 protein
                                                                                                                                                                                                                                                                               ч
                                                                                                                                                                                                                                                                                 'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  $\frac{1}{2} \frac{1}{2} \frac
                           S
                                                                           밁
                                                                                                        δ
                                                                                                                                                   뭐
                                                                                                                                                                              δ
                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
```

S

밁 ð 밁 S 밁 δ 밁 S 밁 S 밁 ક 밁 S

δ 밁

유

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment Scores: Pred. No.:
 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-029-345A-108_COPY_538_2532 (1-1995) x DUS8_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GO; GO:0005737; C:cytoplasm; TAS.
GO; GO:0004725; F:protein tyrosine phosphatase act
GO; GO:0004725; F:protein tyrosine phosphatase act
GO; GO:0000188; P:inactivation of MAPK, TAS.
GO; GO:0006470; P:protein amino acid dephosphoryl:
InterPro; IPR001340; DS phosphatase.
InterPro; IPR001343; MAPK, phosph.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; TYR phosphatase.
Pfan; PF00782; DSPC; 1.
PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPC; 1.
SMART; SM00195; DSPC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Genew, HGNC:3074; DUSP8.

MIM; 602038; -.

GO; 60:0005737; C:cytopla

GO; GO:0004725; F:protein

GO; GO:000188; P:inactiv

GO; GO:0006470; P:protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation—the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS00383; TYR PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR PHOSPHATASE DUAL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; U27193; AAA83151.1;
HSSP; Q16828; 1MKP.
                                     358
                                                                          101
 121
                                                                                                                                                    81
                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                 41 TrpHisValLeuSerSerValAsnIleCysCysSerLysLeuValLysArgArgLeuGln
                                                                                                                                                                                                                                                                                                                                                                           21
                                                                                                                                                                                                                                                                                                                                                                                                                  58
CAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATT
                                                                                                                                                                                                                                                                                                                      TCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAA
                                                                                                                                                                                                                                                                                                                                                                         ArgGlyGlyProGlyGlyProLeuValIleAspSerArgSerPheValGluTyrAsnSer
                                                                                                                                                                                                                                                                                                                                                                                               GAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                  MetAlaGlyAspArgLeuProArgLysValMetAspAlaLysLysLeuAlaSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; Nuclear protein.
23 138
162 430
310 550
246 246
                                                                                                                                                                                                                           GinGlyLysValThrileAlaGluLeul
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGGCCCATGAGATGATTGGAACTCAAATTGTT---ACTGAGAGGTTGGTGGCTCTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₽,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8.94e-76
1326.00
58.54%
45.05%
36.68%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        65840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ¥.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PHOSPHOCYSTEINE SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRO-RICH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RHODANESE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROTEIN-TYROSINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DCBEA14487219666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    dephosphorylation; TAS
                                                                                                                                                                                                                         ||||| :::|||::: :::|||:::
|eGlnProAlaAlaArgSerGlnValGluAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       activity;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       625
314
94
185
104
21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (1-625)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YB)
                                                                              120
                                                                                                                                                      100
                                                                                                                                                                                                                                                                                                                                            177
                                                                                                                                                                                                                                                                                                                                                                               40
                                                                                                                                                                                           297
                                                                                                                                                                                                                                90
                                                                                                                                                                                                                                                                                                                                                                                                                                                         20
                                                                                                                                                                                                                                                                                                       60
```

	4.
	426
	406 ArgArgProAs
	1240 GCAGCATCCTTACATGGCTTCTCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCC 1299 402TyrAlaProSer 405
	180 AATAAGCTCAAGCGTTCCTTCTCTGGATATCAAATCAGTTTCATATTCAGCCAGC
	1120 AGCCCGCTGGTACAGGCGCTCAGTGGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGC 1179
	ο ω σ
	313
	LeuAlaAlaLeuGlnGlyAspProGlyThr
	895 AAGAACCAGACTGGAGCATCAGGGCCAAAAGAGCAAACTCAAGGTGCTGCACCTGGAGAAAG 954
	o m
	61
	-
	-
	ני מי
	8 1 5
	61
	18 41 76

밁 S 멍 δ 밁 Ś 밁 Ś 밁 Ş ₽ Ş 밁 S 문 Ş 밁 Ş 맑 S 밁 Ş ₽ Ş 밁 Ş В Ş 뫄 S 밁 Ś 뮹 δ B S

ü

brain and lung.

```
RESULT DUSS. MO DID S. MO 
                                                                     RP SEQUENCE FROM N.A.

RC TISSUB-Brain;

RX MEDLINE-95311565; PubMed=8733137;

RA Theodosiou A.M., Rodrigues N.R., Nesbit M.A., Ambrose H.J.,

PA Paterson H., McLellan-Arnold E., Boyd Y., Leversha M.A., Owen N.,

RA Paterson H., McLellan-Arnold E., Boyd Y., Leversha M.A., Owen N.,

RA Paterson H., McLellan-Brook K.E.;

Containing a complex trinucleotide repeat in the coding region.";

CC containing a complex trinucleotide repeat in the coding region.";

CC containing a complex trinucleotide repeat in the coding region.";

CC ci- FUNCTION: This protein shows both activity toward tyrosine-protein phosphate as well as with serine/threonine-protein phosphate (By CC similarity).

CC containing Trinucleotic tyrosine phosphate (By CC cyrosine + phosphate).

CC crafalyTIC ACTIVITY: Protein tyrosine phosphate + H(2)O = protein phosphate.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              O09112;
15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatese 8 (EC 3.1.3.48)
(Neuronal tyrosine threonine phosphatase 1).
DUSP8 OR NTTP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BSDD
phosphate.
SUBCELLULAR LOCATION: Cytoplasmic and nuclear.
TISSUE SPECIFICITY: Expressed predominantly in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1444 AAGCGATTGCATTCGGTCAGAACCAGCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTATCT 1503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGGAATTTGGAGAGAGCATCATGTCAGAGAACAGGTCACGG---GAAGAGCTGGGGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MetGluPheGluGluGly---MetValGluGlyArgAlaArgGlyGluGluLeuAlaAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ArgThrGlyTrpProGluGluProAlaProGluThrGlnPheLysArgArgSerCysGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProGlyGlyGlySerAspLeuArgArgArgGluAlaAlaArgAlaGluProArgAspAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGCGGAGACCAAGTCTATTCTGTGCGCAGGCGGCAGAAGCCAAGTGACAGAGCTGACTCG 1827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGGCGGAGCTGGCATGAAGAGAGCCCCTTTGAAAAGCAGTTTAAACGCAGAAGCTGCCAA 1887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GlyAlaGlnGlyAlaGlyGlyValLeuPheAlaProPheGlyArgAlaGlyAlaProGly 549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ThrProSerProAspGlyProTrpCysPheSerProGlu---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCCCTTCCCTGACCAGCAGCTGGTATTTTGCCACAGAGTCCTCACACTTCTACTCTGCC 1707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ProGlyGlnProAlaGlyProGlyAlaTrpAlaProProLeuAspSerPro-----Gly 516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AlaAlaArgGlnThrProArgHisGlyLeuSerAlaLeuSerAlaProGlyLeuProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ProAlaHisSerLeuGly-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----ProAlaGlySerProAlaArg-----Ser 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGCACTCGGATATCTTGGCCCCCCAGACCTCT 1647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----LeuAsnPheGlyAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (EC 3.1.3.16)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -------------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         478
```

```
밁
                                                                                                                                     S
                                                                                                                                                                  В
                                                                                                                                                                                     ঠ
                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                        ঠ
                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                          음 성
                                                                                                                                                                                                                                                                                                                          US-10-029-345A-108_COPY_538_2532
                                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                  Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PRO1764; MAPKPHPHTASE.

SMART; SM00195; DSPC; 1.

SMART; SM00450; RHOD; 1.

SMART; SM00450; RHOD; 1.

PROSITE; PS50206; RHODANESE 3; 1.

PROSITE; PS500383; TYR PHOSPHATASE 1; 1.

PROSITE; PS50056; TYR PHOSPHATASE DUAL; 1.

PROSITE; PS50054; TYR PHOSPHATASE DUAL; 1.

Hydrolase; Nuclear protein.
                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR000340; DS_phosphatase.
InterPro; IPR003343; MAPK_phosph.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR000387; TYR_phosphatase.
Pfam; PF00782; DSPc; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; X95518; CAA64772.1;
HSSP; Q16828; 1MKP.
MGD; MGI:106626; Dusp8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                       Х
..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY: Belongs to the protein-tyrosine phosphatase family. Non-receptor class dual specificity subfamily. SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                   118 TCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAA
                                                                                                                   61
                                                                                                                                                                    41
                                                                                                                                                                                                                                                                                                                                                                              Similarity:
                                                                                                                                                                                                                      21
            AlaAspSerPheLeuSerIleLeuLeuSerLysLeuAspGlyCysPheAspSerValAla
                                      TCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCAC
                                                             GlnGlyLysValThrileAlaGluLeuIleGlnProAlaThrArgSerGlnValAspAla
                                                                                                                                                                    CysHisValLeuSerSerValAsnIleCysCysSerLysLeuValLysArgArgLeuGln
                                                                                                                                                                                                                     ArgGlyGlyProGlyGlyProLeuVallleAspSerArgSerPheValGluTyrAsnSer
                                                                                                                                                                                                                                    ATGGCCCATGAGATGATTGGAACTCAAATTGTT---ACTGAGAGGTTGGTGGCTCTGCTG
                                                                                                                                          CAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATT
                                                                                                                                                                                                                                                                       MetAlaGlyAspArgLeuProArgLysValMetAspAlaLysLysLeuAlaSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nuclear
23
162
452
555
579
579
571
311
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ₽,
                                                                                                                                                                                                                                                                                                                                                              2.89e-74
1302.00
57.38%
43.44%
36.02%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 138
432
459
558
576
600
552
                                                                                                                                                                                                                                                                                                                                                                                                                                                           68847
                                                                                                                                                                                                                                                                                                                                                                                                                                                           MW;
                                                                                                                                                                                                                                                                                                                          (1-1995) x DUSB_MOUSE (1-663)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROTEIN-TYROSINE I
POLY-ARG.
POLY-SER.
POLY-GLY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                POLY-SER.
PRO-RICH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RHODANESE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PHOSPHOCYSTEINE INTERMEDIATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                           416F429A12C1FA7C
                                                                                                                                                                                                                                                                                                                                                                                          Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                   Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ۲
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CRC64;
                                                                                                                                                                                                                                                                                                                                                      663
318
102
176
136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (BY
                                       357
                                                               100
                                                                                         297
                                                                                                                   80
                                                                                                                                                                                              177
                                                                                                                                                                                                                      40
                                                                                                                                                                                                                                                117
             120
                                                                                                                                          237
                                                                                                                                                                    60
                                                                                                                                                                                                                                                                          20
                       밁
                                               á
                                                                                                                                                                                                                                                                                                         S
S
                                                                            밁
                                                                                               5
                                                                                                                            밁
                                                                                                                                                   S
                                                                                                                                                                                밁
                                                                                                                                                                                                  5
                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                         뫄
                                                                                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멼
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                        1150
                                                                                                                                                                                                                                                                                                                                                                   1009
 1390 GAAGCCAGCATCCCCAAG------AAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG 1440
                                                                                                                                                        1210
                                                                                                                                                                                                                                                                                                                 1051
                                                                                                     1270
                                                                                                                                                                                                                                                            1090 CCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAGTGGGCTG
                         438
                                                                                                                               400
                                                                                                                                                                                 380
                                                                                                                                                                                                                                                                                       351
                                                                                                                                                                                                                                                                                                                                                                                             314
                                                                                                                                                                                                                                                                                                                                                                                                                       949
                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAACAAGCTATGC
                                                                                                                                                                               HisLeuSerSerAspArgLeuGlnAspThrAsnArgLeuLysArgSerPheSerLeuAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlnValIleValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACTITATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCCTGGCCTCTGTGAAGGAAAA
                                                                          GlyGluAlaProLysLeuCysLysLeuAspSerProSerGlyGlyThrLeuGlyLeu---
                                                                                                                                                      ATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTCTCCTCATCA
                                                                                                                                                                                                       CACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTCTCTCGGAT 1209
                                                                                                                                                                                                                                    SerAlaLeuGln----
                                                                                                                                                                                                                                                                                                                                                                   CTCAGTCCACCCTGTGCCGACTCTGCTACC-----TCAGAGGCAGCA------
                                                                                                                                                                                                                                                                                                                                                                                            GlyThrPro---GluProLeuMetGlyProAlaAlaGlyIleProLeuProArgLeuPro
                                                                                                                                                                                                                                                                                                                                                                                                                       GAGAAGCCAAATGAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuMetThrGlnAsnGlyIleSerTyrValLeuAsnAlaSerAsnSerCysProLysPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProAlaThrLeuProSerMetSerLeuSerGlnProCysLeuProValProSerValGly
                                                   CAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCTGATAAGGAG
                                                                                                                               IleLysSer--
                                                                                                                                                                                                                                                                                    GluGlySerProSerAlaGlyGlyAspAlaProIle---ProSerThrAlaProAlaThr
                                                                                                                                                                                                                                                                                                                                         -----ProSerThrSerGluSerAlaAlaThrGlySerGluAlaAlaThrAlaAlaArg
                                                                                                                                                                                                                                                                                                                                                                                                                                               LysLeuLeuAlaAlaLeuGlnThrAspGlyPro-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAGAACCAGACTGGA-----GCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AspPheIleCysGluSerArgPheMetArgIleProIleAsnAspAsnTyrCysGluLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCCACTCTAGTCCCTACC---TGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IleLeuThrGlyGlyPheAlaThrPheSerSerCysPheProGlyLeuCysGluGlyLys
                                                                                                                              -AlaTyrAlaProSerArgArgProAspPheProGlyProProAspPro
                                                                                                                                                                                                                                                                                                                - GGACAAAGGCCCGTGCATCCCGCCAGCGTGCCCAGCGTG
                                                                                                                                                                                            ::
                         -ProSerProSerProAspSerPro
                                                                                                                                                                                                                                    -----GinGlyLeuArgGlyLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ------HisLeu
                                                    1389
                                                                                                                                418
                                                                                                                                                         1269
                                                                                                                                                                                                                                                                                                                 1089
                                                                                                                                                                                                                                                                                                                                                                     1050
                                                                                                                                                                                                                                                                                                                                                                                                                       1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        160
                           445
                                                                              437
                                                                                                                                                                                                                                     379
                                                                                                                                                                                                                                                                                                                                                                                                                                                 313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         594
```

```
RESULT 4
VHP1_CAEEL
                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                片
                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                     뮍
                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                           맑
                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 $
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
Chissoe S.;
Submitted (JUL-1995) to the EMBL/GenBank/DDBJ databases.
-!- CATALYTIC ACTIVITY: protein tyrosine phosphate + H(2)O =
-!- SIMILARITY: Belongs to the protein-tyrosine phosphatase
Non-receptor class dual specificity subfamily.
                                                                                                                        VHP1_CAEEL STANDARD; PRT; 619 AA. Q10038; 01-NOV-1997 (Rel. 35, Created) 01-NOV-1997 (Rel. 35, Last sequence update) 10-OCT-2003 (Rel. 42, Last annotation update) Protein-tyrosine phosphatase vhp-1 (EC 3.1.3.48).
                                                                     SEQUENCE FROM N.A.
STRAIN-Bristol N2;
                                                                                                      Eukaryota; Metazoa; Nemat
Rhabditidae; Peloderinae;
                                                                                                                       Caenorhabditis elegans.
                                                                                                 NCBI_TaxID=6239;
                                                                                                                                                                                                                                              1960
                                                                                                                                                                                                                                                                                 1903
                                                                                                                                                                                                                                                                                                                    1843
                                                                                                                                                                                                                             652
                                                                                                                                                                                                                                                                633
                                                                                                                                                                                                                                                                                                   613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  446
                                                                                                                                                                                                                              AGCTTTTCGGGCAGCATGGAAATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                      Gly---MetValGluGlyArgAlaArgGlyGluGluLeuAlaAlaLeuGlyLysGlnThr
                                                                                                                                                                                                                                                                AGCATGATGTCAGAGAACAGGTCACGG---GAAGAGCTGGGGAAAGTGGGCAGTCAGTCT 1959
                                                                                                                                                                                                                                                                                       GluGlubroAlaAlaAspAlaGlnPheLysArgArgSerCysGlnMetGluPheGluGlu
                                                                                                                                                                                                                                                                                                 GAAGAGAGCCCCTTTGAAAAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAG
                                                                                                                                                                                                                                                                                                                          SerAspLeuArgArgArg------AspValArgThrGlyTrpPro
                                                                                                                                                                                                                                                                                                                                      TATTCTGTGCGCAGGCGGCAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCAT 1842
                                                                                                                                                                                                                                                                                                                                                              ---AGTGCCAGTTACTCTGCCTACAGCTGCAGCCAGCTGCCCACTTGCCGAGACCAAGTC
                                                                                                                                                                                                                                                                                                                                                                                                 SerAlaPheGlyArgVal8erAlaGlyAlaProGlyProGlyAsnSerSerSerSerGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SerProAspGlyProTrpCysPheSerProGluGlyAlaGlnGlyProGlyAlaValPhe 539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCCCTGACCAGCAGCTGGTATTTTGCCACAGAGTCCTCACAC-----TTCTAC 1701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlnProAladiyProGlydiyTrpValProProLeuAspSerPro-----GlyThrPro 519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ---GlyLeuSerAla------LeuSerAlaProGlyLeuProGlyProGly 501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCGGCCTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTG-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTTTTATCTCCACTGCATCGAAGTGGGAAGCGTGGAGGACAATTACCACCACCAGCTTCCTT 1554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ProAlaArgSerProAlaHisGlyLeuGlyLeuAsnPheGlyAspThrAlaArgGln---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGCAAGCGA-----TTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nematoda; Chromadorea; Rhabditida;
rinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           - GGCCTTAAGGGCTGGCACTCGGATATCTTGGCCCCCGGCAGACCTCTACCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ------TCAGCCATCTACGGA 1722
                                                                                                        Rhabditoidea;
                                                                                                                                                                                                                                                                                                                            612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       464
                                    δ
                                                       B
                                                                     5
                                                                                        맑
                                                                                                          Ş
                                                                                                                             문
                                                                                                                                             Ş
                                                                                                                                                                 뮍
                                                                                                                                                                               8
                                                                                                                                                                                                      멍
                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                  Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similari
                                                                                                                                                                                                                                                                                                                                                                                    Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                             No.:
                                                                         712
                                                                                            198
                                                                                                                                                                 158
                                                                                                                                                                                                                                        119
                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                             367
                                                                                                                                                                                                                                                                           99
                                                                                                                                                                                                                                                                                                                                                                                                      619
```

```
US-10-029-345A-108_COPY_538_2532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R HSSP; Q16828; IMKP
R WormPep; F08B1.1; CE01899.
R INTERTPO; IPRO00340; DS phosphatase.
R INTERTPO; IPRO00387; TYR_phosphatase.
R INTERTPO; IPRO00387; TYR_phosphatase.
SMART; SM00195; DSPC; 1.
SMART; SM00195; DSPC; 1.
ROSITE; PS00383; TYR_PHOSPHATASE_1; 1.
PROSITE; PS00383; TYR_PHOSPHATASE_DUAL; 1.
PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
PMOMAIN 20 269
DOMAIN 22 95
DOMAIN 351 354
DOMAIN 351 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMME outstation the European Bioinformatics Institute. There are no restrictions on its modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; U23178; AAC46719.1; -. PIR; T15969; T15969.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          178 ValCysileTysGluAspLysAsnPheMetArgIleProvalAsnAspSerTyrGlnGlu 197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity:
AGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAG
                                                                TyrileMetArgTyrMetLysMetGlySerAspAspAlaTyrArgTyrValLysGluArg
                                                                                                                 LysLysCysLeuIleHisCysLeuAlaGlyIleSerArgSerProThrLeuAlaileSer
                                                                                                                                                                                                                                                      GGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCC
                                                                                                                                                                                                                                                                                                                                                 {\tt LysLeuSerProTyrPheProMetAlaTyrGluPheLeuGluLysCysArgArgAlaGly}
                                                                                                                                                                                                                                                                                                                                                                                                                  AAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACTTTATCCCCGAG---TCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ::::::
MetLeuAspAlaLeuAspIleSerValValIleAsnLeuSerMetThrCysProLysSer 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ссаясссваяттсттессяятсттвтсттевствесявсваемтетестсяясваеме
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTA-----CCTGTTGCCAACATTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IleThrLeuileThrProAsnIleTyrLeuGlySerGinIleAspSerLeuAspGluThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ThrargLeuProGlnSerLeuSerGlnProCysLeuSerGlnProThrGlyAsp---Gly 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlyGlyPheLysGlnPheAlaGlnGlnTyrProGlnLeuCysGluSerSerGluGlyMet 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6.23e-25
515.00
45.32%
31.55%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         66354 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (1-1995) x VHP1_CAEEL (1-619)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PROTEIN-TYROSINE |
POLY-SER.
POLY-SER.
POLY-SER.
POLY-SER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PHOSPHOCYSTEINE INTERMEDIATE SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              369E326F615D0529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            619
165
72
173
113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CRC64;
                                                                                                                                                                                                                237
                                                                                                                                                                                                                                                                                 771
                                                                                                                                                                                                                                                                                                                                                     217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               157
```

```
1645
  1855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         258
TTTGAAA 1861
                                                                                                                                                                                                                                                                                                                                                                                                                         TCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCCACAGAGTCCTCACACTTCTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCACTCGGATATCTTGGCCCCCCAGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCAGCAGCAGCACCGCCCAGAGGTCCCTTTTATCTCCACTGCATCGAAGTGGGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ThrSerValAlaGluLeuProSerProSerThrGluLeuSerArgLeuSerPhe-AsnGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCAGT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGGACCAACAAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAA 1371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CATGGCTTCTCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGCCAAATGAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTC 1011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      oSerGly---SerGlnSerThrProAlaSerAlaSerSerSerAlaAlaSerArgCysAr
                                                                                                                                                                                                           TACTCTGCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGC
                                                                                                                                                                                                                                                                                                                    GCCTCAGCCA-----TCTACGGAGGCAGTGCCAGT
                                                                                                                                                                                                                                                                                                                                                                        -LeuThrLeuProThrProAlaAla-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           rArgGluValIle-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ----AsnPheThrAsnProCysPheAsnSerProIleIleProValAlaSerSerSe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          yProGluAlaIleAlaProSerThr---ProIleLeu------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCGCC----AGGCCTTCAGACAGC---CAGAGCAAGCGATTGCATTCGGTCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ------SerSerSerThrAlaSerAlaProProSerMetProSerThrSerGluGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGGCGCTCAGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GluSerSerProSerSerProSerValSerGluGlySerAlaAlaSerGluPro-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCAGCGTGCCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTA 113:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ---ProLysValProLysSerAlaSerSerAsnCysValPheProGlySerThrHisAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGTCCACCCTGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlnAlaSerArgProHisArgHisMetAspTyrTyrGlyProSerAspLeuCysPro---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTAAGAACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAG
                                                                                                        AGGCGGCAGAAGCCAAGTGACAGAGCTGACTCGCCGGCGGAGCTGGCATGAAGAGAGCCCCC
                                                                                                                                                       1GluAsnProPhePheAlaSerThrGluValProAlaGlySerSerSerIleSerThrPr
                                                                                                                                                                                                                                                               rSerGluProSerPheAspPheSerSerPheGluSerSerSerSerSerSerIleValVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ThrMetAspLeuGlyLeuProHisArgProLysAlaLeuGlyLeuProSerArgIleGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -CCTGATAAGGAGGAAGCC---AGCATCCCCAAGAAGCTGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              --------GluThrSerSerSerAlaAlaSer---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ----SerGlyThrValAsnValAsnGlyLysArgAsnMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---IleLysAspHisValLeuAspTyrAsn
                                                                                                                                                                                                                                                                                                                                                                        SerSerSerSerSerThrSe
                                                                                                                                                                                                              1794
                                                                                                                                                                                                                                                                                                                                                                                                                            1704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1071
                                                       530
                                                                                                                                                                                                                                                                                                                                                                        471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  325
                                                                                                                                                            511
                                                                                                                                                                                                                                                               491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         277
```

ર્

밁 S 밁 S

В

₽

ঠ 밁 중 유 S 밁 δ 밁 S 중 유

5 밁 ş В 5 당 ð 밁 S

S

멍

음 성

र् 밁

밁

```
밁
                                                                                                                                                                                                                                                                                                  RA Klausner R.D. Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Brapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abrameon R.D., Mullahy S.J.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abrameon R.D., Mullahy S.J.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hullyk S.W.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulk S.W.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gibbs R.A.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gibbs R.A.,
RA Willalon D.K., Muzny D.M., Sodengren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA Miting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Miting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Miting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Schnerch A., Schein J.E., Jones S.J. M., Marra M.A.,
"Generation and initial analysis of more than 15,000 full-length
human and mouse cDNA sequences.",
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LT 5
HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
10-OCT-2003 (Rel. 42, Last amoutation update)
Dual specificity protein phosphatase 6 (EC 3.1.3.48) (EC 3.1.3.16)
(Mitogen-activated protein kinase phosphatase 3) (MAP kinase phosphatase 3) (MAP kinase phosphatase 3) (Dual specificity protein phosphatase PYST1 DUSP6 OR MKP3 OR PYST1.
                                                                                                                                                                                               MEDLINE=99140299; PubMed=10048930;
Stewart A.E., Dowd S., Keyse S.M., McDonald N.Q.;
"Crystal structure of the MAPK phosphatase Pystl catalytic domain and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. (ISOFORM 1), AND VARIANT V
TISSUE-Colon, Kidney, Skin, and Stomach;
MEDLINE-22388257; PubMed-12477932;
Strausberg R.L., Feingold E.A., Grouse L.H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Groom L.A., Sneddon A.A., Alessi D.R., Dowd S., Keyse S.M., "Differential regulation of the MAP, SAP and RK/p38 kinases a novel cytosolic dual-specificity phosphatase."; EMBO J. 15:3621-3632(1996).
                                                                                                                                                   implications for regulated activation.";
Nat. Struct. Biol. 6:174-181(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Furukawa T., Yatsuoka T., Youssef
Fukushige S., Soeda E., Hoshi M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q16828; O75109; Q9BSH6;
01-NOV-1997 (Rel. 35, C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DUS6_HUMAN
                                                                                     -!- CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)0 =
                                                                                                                              -!- FUNCTION: Inactivates MAP kinases. Has a specificity for the
                                                                                                                                                                                                                                                               X-RAY CRYSTALLOGRAPHY (2.35 ANGSTROMS) OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cytogenet. Cell Genet. 82:156-159(1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      in pancreatic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=99077745; PubMed=9858808;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. (ISOFORMS 1 AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=96312959; PubMed=8670865;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. (ISOFORM 1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Genomic analysis of DUSP6, a dual specificity MAP kinase phosphatase
phosphate.
SUBCELLULAR LOCATION: Cytoplasmic.
                                         tyrosine + phosphate. CATALYTIC ACTIVITY: A phosphoprotein + H(2)O = a protein
                                                                                                            family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gMetLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ssef E.M., Abe T., Yokoyama T
M., Hayashi Y., Sunamura M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              <u>د</u>
د
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₿
                                                                                                                                                                                                                                                                 204-347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VAL-114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Derge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     J.G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               r G.D.,
t N.K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Kobari M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PYST1).
```

-

```
TURN
STRAND
STRAND
TURN
STRAND
TURN
STRAND
TURN
HELIX
HELIX
HELIX
                                                                                                                                                                                             TURN
HELIX
                                                                                                                                                                                                                                                                                                                                                              SMART; SMOU45U; ALLE, 1.

PROSITE; PS50206; RHODANESE 3; 1.

PROSITE; PS00383; TYR_PHOSPHATASE 1; FALSE_NEG.

PROSITE; PS50056; TYR_PHOSPHATASE_2; 1.

PROSITE; PS50054; TYR_PHOSPHATASE_DUAL; 1.

PROSITE; PS50054; TYR_PHOSPHATASE_DUAL; 1.
                                                                                                                                                                                                                            TURN
                                                                                                                                                                                                                                                                                                                                            DOMAIN
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam, PF00782; DSPC; 1.
Pfam, PF00581; Rhodanese; 1.
PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPC; 1.
SMART; SM00195; RHDD; 1.
                                                                                                                                                                                                                                                                                            VARIANT
                                                                                                                                                                                                                                                                                                                           VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GO; GO:0006470; P:protein amino acid dephosphorylation; TAS InterPro; IPR000340; DS phosphatase. InterPro; IPR008343; MAPK phosph. InterPro; IPR001763; Rhodanese-like. InterPro; IPR001763; TXR_phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              00000
MIN
00000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genew;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; X93920; CAA63813.1;
EMBL; AB013601; BAA31968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GO:0005737; C:cytoplasm; IDA.
GO:0005625; C:soluble fraction; TAS.
GO:0004722; F:protein serine/threonine phosphatase activity;
GO:0004725; F:protein tyronine phosphatase activity; IDA.
GO:0000188; P:Inactivation of MAPK, IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   L; AB01360; BAA31968.1; JOINED.
L; AB013383; BAA31968.1; JOINED.
L; AB013600; BAA31968.1; JOINED.
L; AB013802; BAA34369.1;
L; AB013602; BAA31969.1;
L; AB013602; BAA31969.1;
L; BC003143; AAH03143.1;
L; BC003562; AAH03562.1;
L; BC005047; AAH05047.1;
L; BC005047; AAH05047.1;
L; BC005047; AAH05047.1;
L; BC005047; AAH37236.1;
L; BC005047; AAH05047.1;
L; BC005047; AAH05047.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          602748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Non-receptor class dual specificity subfamily. SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IsoId=016828-2; Sequence=VSP 005137; SIMILARITY: Belongs to the protein-tyrosine phosphatase Non-receptor class dual specificity subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Event=Alternative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HGNC:3072; DUSP6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IsoId=Q16828-1; Sequence=Displayed;
me=2; Synonyms=DUSP6-ALT;
                                                                                                                                                                                                                                                                                                                       30
206
293
134
                                       211
213
217
220
230
232
238
250
252
257
265
271
284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  splicing; Named isoforms=2;
                                                                                                                                                                                                                                                                                          Missing (in isoro /FTId=VSP_005137.
                                                                                                                                                                                                                                                                                                          PROTEIN-TYROSINE PHOSPHATASE PHOSPHOCYSTEINE INTERMEDIATE Missing (in isoform 2).
                                                                                                                                                                                                                                                                /FTId=VAR_015113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IDA.
                                                                            Ś
                                                                                                                뮍
                                                                                                                                           Ś
                                                                                                                                                                          문
                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                        뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-029-345A-108_COPY_538_2532 (1-1995) x DUS6_HUMAN (1-381)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Percent Similarity:
Best Local Similari
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SQ PTT FTT FTT FTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAND
HELIX
TURN
HELIX
TURN
TURN
TURN
HELIX
TURN
HELIX
TURN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        No.:
                                                                                                                245
                                                                                                                                                                                                                                                                                                                   185
                                                                                                                                                                                                                                                                                                                                                    474
                                                                                                                                                                                                                                                                                                                                                                                    165
                                                                                                                                                                                                                                                                                                                                                                                                                    463
                                                                                                                                                                                                                                                                                                                                                                                                                                                    147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   115 ACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity:
TCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCT
                                SerGlnAsnLeuSerGlnPhePheProGluAlaIleSerPheIleAspGluAlaArgGly
                                                                                                                                                                 LeuAspValLeuGluGluPheGlyIleLysTyrIleLeuAsnValThrProAsnLeuPro
                                                              TGTGAGAAAATTTTGCCGTGGTTGGACAAATÇAGTAGATTTCATTGAGAAAAGCAAAAGCC
                                                                                              AsnLeuPheGluAsnAlaGlyGluPheLysTyrLysGlnIleProIleSerAspHisTrp
                                                                                                                               AAGCCT---GACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTT
                                                                                                                                                                                               AAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCA
                                                                                                                                                                                                                               SerPheProValGluileLeuProPheLeuTyrLeuGlyCysAlaLysAspSerThrAsn
                                                                                                                                                                                                                                                                                                  AspArgAspProAsnSerAlaThrAspSerAspGlySerProLeuSerAsnSerGlnPro
                                                                                                                                                                                                                                                                                                                                                              {\tt LeuG1yLeuG1yG1yLeuArgI1eSerSerAspSerSerSerAspI1eG1uSerAspLeu}
                                                                                                                                                                                                                                                                                                                                                                                                                 GCCAACATTGGG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                               CysGlu-----ThrAsnLeuAspGlySerCysSerSerSerSerProProLeuProVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CysArgAlaPheTyrLeuGluGlyGlyPheSerLysPheGlnAlaGluPheSerLeuHis 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GluAsnThrGlyGlyGluSerLeuLeuGlyLeuLeuLeuLysLysLeuLysAspGluGly 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ThrArgArgCysGlyThrAspThrValValLeuTyrAspGluSerSerAspTrpAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACATTGATTGC---AGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGAT---GTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GinLysGlyAsnLeuProValArgAlaLeuPheThrArgGlyGluAspArgAspArgPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCG---AAACATAAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerSerHisileGluSerAlaileAsnValAlaIleProGlyIleMetLeuArgArgLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   \texttt{LeuGluLeuGlyAsnGluArgLeuLeuLeuMetAspCysArgProGlnGluLeuTyrGlu}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGGAAAGTGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAAATACAAT 114
                                                                                                                                                                                                                                                                 CCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ₽,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3.06e-22
471.50
53.01%
34.04%
13.04%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   312
313
326
329
336
345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   42333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          03BC12252CE73B26 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           381
113
63
107
49
                                  284
                                                                                                                                645
                                                                705
                                                                                                  264
                                                                                                                                                                                                 588
                                                                                                                                                                 244
                                                                                                                                                                                                                                 224
                                                                                                                                                                                                                                                                   528
                                                                                                                                                                                                                                                                                                                                    474
                                                                                                                                                                                                                                                                                                                                                                    184
                                                                                                                                                                                                                                                                                                   204
                                                                                                                                                                                                                                                                                                                                                                                                    474
                                                                                                                                                                                                                                                                                                                                                                                                                                    164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66
```

```
RESULT DISCONSISSION OF THE STATE OF THE STA
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ર્
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE=Brain, Lung, MEDLINE=22388257; P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Theodosiou A., Smith A., Gillieron C., Arkinstall S., Ashworth A., "MKP5, a new member of the MAP kinase phosphatase family, which selectively dephosphorylates stress-activated kinases."; Oncogene 18:6981-6988(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=99321929; PubMed=10391943; Tanoue T., Moriguchi T., Nishida E.; Tanoue To, moriguchi T., Nishida E.; "Molecular cloning and characterization phosphatase, MKP-5.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dual specificity protein phosphatase 10 (EC 3.1.3.48) (Mitogen-activated protein kinase phosphatase 5) (MAP phosphatase 5) (MKP-5).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=20065165; PubMed=10597297; Theodosiou A., Smith A., Gillieron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DUSP10 OR MKP5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DUSA_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28-FEB-2003 (Rel. 41, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            28-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             345 ArgThrLeu---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       305 ValAlaTyrLeuMetGlnLysLeuAsnLeuSerMetAsnAspAlaTyrAspIleValLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAGAAGATTAAGAACCAGACTGGAGCATCAGGGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MetLysLysSerAsnIleSerProAsnPheAsnPheMetGlyGlnLeuLeuAspPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAAAAAAGCCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (Rel. 41, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               274:19949-19956(1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and Testis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -GlyLeuSerSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           of a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           dual specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (EC 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3.1.3.16)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                304
```

```
ô
                                        밁
                                                                Ś
                                                                                               밁
                                                                                                                      Ś
                                                                                                                                                     밁
                                                                                                                                                                              δ
                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                              US-10-029-345A-108_COPY_538_2532 (1-1995) x DUSA_HUMAN (1-482)
                                                                                                                                                                                                                                                                                             Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                            Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00782; DSPC; 1.

Pfam; PF00782; Rhodanese; 1.

Pfam; PF00581; Rhodanese; 1.

PRINTS; PR01764; MAPKPHPHTASE.

SMART; SM00195; DSPC; 1.

SMART; SM00195; RHOD; 1.

PROSITE; PS0026; RHODANESE 3; 1.

PROSITE; PS00383; TYR PHOSPHATASE 1; 1.

PROSITE; PS0036; TYR PHOSPHATASE 2; 1.

PROSITE; PS00054; TYR PHOSPHATASE DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Genew; HGNC:3065; DUSP10.

GO; GO:0005737; C:cytoplasm; TAS.

GO; GO:000534; C:nucleus; TAS.

GO; GO:0004721; F:protein phosphatase activity; TAS.

GO; GO:0007254; P:JNK cascade; TAS.

GO; GO:0006470; P:protein amino acid dephosphorylation;

GO; GO:0006950; P:response to stress; TAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                     ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR000340; DS phosphatase.
InterPro; IPR008343; MAPK phosph.
InterPro; IPR001763; Rhodanese-like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AB026436; BAA81668.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR000387;
                                                                                                                                                                                                                                                                                                                                                                     NO. :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        phosphate.
SUBCELLULAR LOCATION: Cytoplasmic and nuclear.
SUMILARITY: Belongs to the protein-tyrosine phonon-receptor class dual specificity subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                          196
                                                                                                                                                      193
                                                                                                213
                                                                                                                                                                                                           173 ValllelleAspCysArgProPheMetGluTyrAsnLysSerHisileGlnGlyAlaVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q16828;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AF179212; AAD51857.1; -. BC031405; AAH31405.1; -.
                                                                                                                                                                                                                                        79
ACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGG
                                                                                                                                                                   ACAGAGCTCATCCAG---CATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAAG
                                                                                                                                                   HisIleAsnCysAlaAspLysIleSerArgArgLeuGlnGlnGlyLysIleThrVal
                                      LeuAspLeuIleSerCysArgGluGlyLysAspSerPheLysArgIlePheSerLysGlu
                                                                                                                                                                                                                                                                                                                                                                                                            482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nuclear
                                                                                                                                                                                                                                                                                                                                                                                                                                        168
384
408
                                                                                                             ::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1MKP
                                                                                                                                                                                                                                                                                                                                                                                                           AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                      r protein.
285
453
408
                                                                                                                                                                                                                                                                                                          4.56e-22
469.00
57.72%
35.91%
12.97%
                                                                                                                                                                                                                                                                                                                                                                                                            52642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYR_phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                            ¥
;
                                                                                                                                                                                                                                                                                                                                                                                                                         PROTEIN-TYROSINE PHOSPHATASE. PHOSPHOCYSTEINE INTERMEDIATE SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RHODANESE.
                                                                                                                                                                                                                                                                                                                                                                                                             A8CB74ABF9498CD4
                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                482
107
65
96
30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              phosphatase family
                                                                                                                                                                                                                                                                                                                                                                                                                                         (BY
                                                                                               232
                                                                                                                         252
                                                                                                                                                                                 195
                372
                                          252
                                                                    312
                                                                                                                                                      212
                                                                                                                                                                                                            192
```

```
SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STRAIN-C57BL/6J; TISSUE-Embryo;
MEDLINE-21085660; PubMed=11217851;
Kawai J., Shinagawa A., Shibata K., Yoshino M., It.
A Arakawa T., Hara A., Fukunishi Y., Konno H., Adach
A Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo
Okazaki Y., Gojobori T., Bono H., Kasuk
                                                                                                                                                                                                                                    MEDLINE=20515587; PubMed=11060451;
Masuda K., Shima H., Kikuchi K., Watanal
"Expression and comparative chromosomal
DUSP10/Dusp10.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q9ESSO; Q9CZY9;
10-OCT-2003 (Rel
10-OCT-2003 (Rel
                                                                                                                                                                                                                                                                                                                                                                                                   Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-OCT-2003 (Rel. 42, Created)
10-OCT-2003 (Rel. 42, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 10 (EC 3.
(Mitogen-activated protein kinase phosphatase
                                                                                                                                                                                                                                                                                                                          STRAIN=C57BL/6;
                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DUSP10 OR MKP5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              phosphatase 5)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DUSA_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ThrargMetThrMetThrAspAlaTyrLysPheValLysGlyLysArgProIleIleSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CACTGTTTAGCTGGGATCTCCCGGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PheGluGluAlaPheGluPheIleGluGluAlaHisGlnCysGlyLysGlyLeuLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTTGTGAGAAAATTTTTGCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ValIleAsnValThrThrHisLeuProLeuTyrHisTyrGluLysGlyLeuPhe-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTGTTAAATGCCAGC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LeuGlyAsnGluGlnAspAlaGlnAspLeuAspThrMetGlnArgLeuAsnileGlyTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ---ProThrThrProAspIleGluAsnAlaGluLeuThrProileLeuProPheLeuPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGCCTTGCTTACCT---GTTGCCAACATTGGGCCAACCCGAATTCTTCCCAATCTTTAT 501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CysArgGluValGlyGlyGlyAlaSerAlaAlaSerSerLeuLeuProGlnProile---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LeuSerSerPheLysGlnAsnHisGluAsnLeuCysAspAsnSerLeuGlnLeuGlnGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HisIleValLeuGluSerLeuLysArgGluGlyLysGluProLeuValLeuLysGlyGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----AsnTyrLysArgLeuProAlaThrAspSerAsnLysGlnAsnLeuArgGlnTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ated protein (MKP-5).
                                                                                                                                                                                                                    Genet.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                90:71-74 (2000)
                                                                                                                                                                                                                                                                                                                                                                                               Craniata; Vertebrata; | Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                          , Watanabe Y., Mac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TATACCTGTCCAAAGCCTGACTTTATCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ----TCCACTCTAGTCCCTACCTGCATTTCT
                                     o M., Itoh M., Ishii I., Adachi J., Fukuda g
, Kondo S., Yamanaka I
, Kasukawa T., Saito I
                                                                                                                                                                                                                                                   Matsuda Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5) (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (MAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .48)
                                                                                                                                                                                                                                                                                                                                                                                          Euteleostomi; 
Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (EC 3.1
                                                                                                                                                                                                                                                 genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3.1.3.16)
                                     RHS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               272
                                                                                                                                                                                                                                                        RARRER RA
                            US-10-029-345A-108_COPY_538_2532 (1-1995) x DUSA_MOUSE (1-483)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     <del>-</del>
```

RESULT DUSA_MC 밁 5 В Ś 밁 Ś 밁 Ş 밁 δ 8

```
A Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
A Pleischmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,
A Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
A Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
A Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
A Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
A Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N. H.,
A Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
A Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
Sasaki H., Tayo-oka K., Wang K.H., Weitz C., Whittaker C., Wilming L.,
RA Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in endified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/anor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                    phosphate.

-i-SUBCELLULAR LOCATION: Cytoplasmic and nuclear -
-i-SIMILARITY: Belongs to the protein-tyrosine pho-
Non-receptor class dual specificity subfamily.
-i-SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Functional annotation of a full-length mouse cDNA collection.";
Nature 409:685-690(2001).
-!- FUNCTION: Involved in the inactivation of MAP kinases. Has a specificity for the MAPK11/MAPK12/MAPK13/MAPK14 subfamily (B)
                                                                                                                                                                                                                                                                                                                                                                                                                                                          similarity).
CATALYTIC ACTIVITY: Protein tyrosine phosphate +
tyrosine + phosphate.
CATALYTIC ACTIVITY: A phosphoprotein + H(2)0 = a
                                                                                                                                                                                                                                                                                                                                                                         phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                Эy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               H(2)0 =
                                                                                                                                                                                                                                                                                                                                                                                                        similarity)
                                                                                                                                                                                                                                                                                                                                                                     family
                                                                                                                                                                                collaboration
L outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (B) a
                                                                                commercia
                                                                                                                                                         g
                                                                                                                                                      its
```

중 유 Ś 밁 Ş 뮰 Ş 밁 δ 뫄

Percent Similarity: Best Local Similari Query Match: Alignment Scores: Pred. No.: CONFLICT CONFLICT CONFLICT SEQUENCE PROSITE; PS50206; RHÓDANESE 3; 1.
PROSITE; PS00383; TYR PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR PHOSPHATASE DUAL;
PROSITE; PS50054; TYR PHOSPHATASE DUAL;
DOMAIN 169 286
RHODANESE. Pfam; PF00782; DSPC; 1.
Ffam; PF00581; Rhodanese; 1.
PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPC; 1.
SMART; SM00450; RHOD; 1. DOMAIN DOMAIN ACT_SITE InterPro; IPR000340; Ds phosphatase. InterPro; IPR000343; MAPK phosph. InterPro; IPR001763; Rhodanese-like. InterPro; IPR000387; TYR phosphatase MGD; MGI:1927070; Similarity: AK011995; Q16828; 1M AB037908; BAB17680.1; AK011995; BAB27966.1; 48 113 386 169 386 409 AA; 1MKP. 48 113 386 52530 i 5.28e-22 468.00 58.05% 35.57% 12.95% Dusp10. 456 409 TYR_phosphatase WW; RHODANESE.

PROTEIN-TYROSINE PHOSPHATASE.

PHOSPHOCYSTEINE INTERMEDIATE (1

SIMILARITY).

A -> T (IN REF. 2).

P -> S (IN REF. 2).

R -> O (IN REF. 2). A -> T (IN REF. 2). P -> S (IN REF. 2). R -> Q (IN REF. 2). 3551562355B46F89 CI Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps: CRC64; 483 106 67 95 30 (BY

```
RESULT
DUS6 MC
ID DUS6
AC QS
DT 28
DT 28
DT 28
DT 10
DE DT
D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            몽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ર્
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                              Dual specificity protein phosphatase 6 (EC 3.1.3.48) (Mitogen-activated protein kinase phosphatase 3) (MAP phosphatase 3) (MXP-3).

DUSP6 OR MKP3.
                                                                                                                                                                          MOUSE STANDARD; PRT; 3
DUS6 MOUSE STANDARD; PRT; 3
Q9DBB1; Q9D7L4;
28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence up
10-QCT-2003 (Rel. 42, Last annotation
                                  Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                          448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeuAspLeuIleSerCysArgGluGlyLysAspSerPheLysArgIlePheSerLysGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HislleAsnCysAlaAspLysIleSerArgArgLeuGlnGlnGlyLysIleThrVal
                                                                                                                                                                                                                                                                                                                                                                                                                      |||||| || |||:::|||||||||||||::::::|||::: |||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ThrargmetThrmetThraspalaTyrLysPheValLysGlyLysargProIleIleSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HisCysGlnAlaGlyValSerArgSerAlaThrIleValIleAlaTyrLeuMetLysHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PheGluGluAlaPheGluPheileGluGluAlaHisGlnCysGlyLysGlyLeuLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----AsnTyrLysArgLeuProAlaThrAspSerAsnLysGlnAsnLeuArgArgTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTGTTAAATGCCAGC----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LeuGlyAsnGluGlnAspAlaGlnAspLeuAspThrMetGlnArgLeuAsnIleGlyTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ValProThrThrProAspIleGluAsnAlaGluLeuThrProIleLeuProPheLeuPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGCCTTGCTTACCT---GTTGCCAACATTGGGCCAACCCGAATTCTTCCCAATCTTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |||:::::::|||
CysArgGluValGlyGlyGlyAlaSerAlaAlaSerSerMetLeuProGln-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LeuSerSerPheLysGlnAsnHisGlyAsnLeuCysAspAsnSerLeuGlnLeuGlnGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAA--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HisIleValLeuGluSerLeuLysArgGluGlyLysGluProLeuValLeuLysGlyGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IleIleValTyrAspGluAsnThrAsnGluProSerArgValThrProSerGlnProLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACAGAGCTCATCCAG----CATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AATATCAACTGCTCC---AAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ValIleIleAspCysArgProPheMetGluTyrAsnLysSerHisIleGlnGlyAlaVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ValileAsnValThrThrHisLeuProLeuTyrHisTyrGluLysGlyLeuPhe-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----TCCACTCTAGTCCCTACCTGCATTTCT
   Chordata;
   Craniata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ----TATACCTGTCCAAAGCCTGACTTTATCCCC
                                                                                                                                                                                                             update)
                                                                                                                                                                                                                                                                                                   381
Vertebrata;
                                                                                                                                                                                                                                                                                                   Ā
   Euteleostomi;
                                                                                                                      (EC 3.1.3.16)
P kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      253
      RA Kawai J. Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
RA Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
RA Arakawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,
RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
RA Blake J., Boffelli D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Lyons P., Marchiomni L., Masshima J., Mazzarelli J., Mombaerts P.,
RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Sasaki H., Sato K., Wang K.H., Weitz C., Whittaker C., Wilming L.,
RA Mynshaw-Boris A., Yoshida K., Hasegawa Y., Kawali H., Kohtsuki S.,
RA Hayashizaki Y.,
REMICHANIA M., Schola K., Hasegawa Y., Kawali H., Kohtsuki S.,
RA Hayashizaki Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RA Strausberg R.D., Peingold E.A., Grouse L.H., Derge J.G.,

RA Klausner R.D., Collins F.S., Wagner L. Shenmen C.M., Schuler G.D.,

RA Altechul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Altechul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Brownstein M.J., Ugdin T.B., Toshiyuki S., Carrinci P., Prange C.,

RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

RA Postak S.A., McEwan P.J., McKernan K.J., Lu X., Gibbs R.A.,

RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Wilting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA Minting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA Minting M., Malan A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA Mitting M., Maria M., Green E.D., Dickson M.C.,

RA Butterfield Y.S.N., Krzywinski M.I., Skalaka U., Smallus D.E.,

RA Botherch A., Schein J.E., Jones S.J.M., Marra M.A.;

"Generation and initial analysis of more than 15,000 full-length

human and mouse cDNA sequences.";

Proc. Natl. Acad. Sci. U.S.A. 99:1699-16903(2002).
EMBL; AK005062; BAB23786.1;
EMBL; AK009131; BAB26093.1;
EMBL; BC003869; AAH03869.1;
HSSP; Q16828; 1MKP.
MGD; MGI:1914853; Dusp6.
                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collable between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/anor send an email to license@sisb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nature 409:685-690(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=22388257;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Functional annotation of a full-length mouse cDNA collection.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN=C57BL/6J; TISSUE=Liver, and MEDLINE=21085660; PubMed=11217851;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     phosphate.
SUBCELLULAR LOCATION: Cytoplasmic (By similarity)
SIMILARITY: Belongs to the protein-tyrosine phosp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  family (By similarity).
CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)O =
tyrosine + phosphate.
CATALYTIC ACTIVITY: A phosphoprotein + H(2)O = a protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FUNCTION: Inactivates MAP kinases.
                                                                                                                                                                                                                                                                                                                                                                                                                      Non-receptor class dual specificity subfamily. SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Feingold E.A., Grouse L.H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the protein-tyrosine phosphatase family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tongue;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Has a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           for the
                                                                                                                                                                                                                                                                                                                                   a collaboration -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein
```

S

5

8 9 5

δ

Ś

Ş

Ş

ð

```
밁
                                                                                                                                       Ś
                                                                                                                                                             밁
                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Percent Similarity:
Best Local Similarit;
Query Match:
DB:
                                                                                                                                                                                                   B
                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment Scores:
Pred. No.:
Score:
                                                                                                                                                                                                                                                                                 뮍
                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-029-345A-108_COPY_538_2532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR000340; DS phosphat InterPro; IPR008343; MAPK phosph InterPro; IPR001763; Rhodanese-1 InterPro; IPR001763; TYR phosphat Pfam; PR00782; DSPc; 1.
PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPc; 1.
SMART; SM00195; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CONFLICT
CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hydrolase.
DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS00383; TYR PHOSPHATASE 1; FALSE NEG.
PROSITE; PS50056; TYR PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR_PHOSPHATASE_DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACT_SITE
                      529
                                         205
                                                             475
                                                                               185
                                                                                                   474
                                                                                                                       165
                                                                                                                                         463
                                                                                                                                                             147
                                                                                                                                                                                406
                                                                                                                                                                                                   127
                                                                                                                                                                                                                                          107
                                                                                                                                                                                                                                                                                                   232
                                                                                                                                                                                                                                                                                                                                          175
                                                                                                                                                                                                                                                                                87
                                                                                                                                                                                                                                                                                                                      67
                                                                                                                                                                                                                                                                                                                                                            47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                    27
                                                                                                                                                                                                                                                                                                                                                                                                                      55
AAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCA
                           SerPheProvalGluileLeuProPheLeuTyrLeuGlyCysAlaLysAspSerThrAsn
                                                                   AspArgAspProAsnSerAlaThrAspSerAspGlySerProLeuSerAsnSerGlnPro
                                                                                                         LeuGlyLeuGlyGlyLeuArgIleSerSerAspSerSerSerAspIleGluSerAspLeu
                                                                                                                                    GCCAACATTGGG-----
                                                                                                                                                CysGiu----ThrAsnLeuAspGlySerCysSerSerSerProProLeuProVal
                                                                                                                                                                    TGTGAAGGAAAATCCACTGTAGTCCCTACCTGC---ATTTCTCAGCCTTGCTTACCTGTT
                                                                                                                                                                                       CysArgAlaPheTyrLeuGluGlyGlyPheSerLysPheGlnAlaGluPheAlaLeuHis
                                                                                                                                                                                                          AACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGGTTCTCGGTTGTTTTCCCTGGCCTC
                                                                                                                                                                                                                            GluAsnThrGlyGlyGluSerValLeuGlyLeuLeuLeuLysLysLeuLysAspGluGly
                                                                                                                                                                                                                                           ThrargargcysGlyThrAspThrVaiVaiLeuTyrAspGluAsnSerSerAspTrpAsn
                                                                                                                                                                                                                                                                                    GACATTGATTGC---AGTCAGAAGGTTGTAGTTTAGGATCAAAGCTCCCAAGAT---GTT
                                                                                                                                                                                                                                                                                                          GinLysGlyAsnLeuProValArgAlaLeuPheThrArgCysGluAspArgAspArgPhe
                                                                                                                                                                                                                                                                                                                              CAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCAT---TCAGCGAAACATAAGGTT
                                                                                                                                                                                                                                                                                                                                                ACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTG
                                                                                                                                                                                                                                                                                                                                                                                       LeugiuLeugiyAsngiuArgLeuLeuLeuMetAspCysArgbroGlnGluLeuTyrGlu
                                                                                                                                                                                                                                                                                                                                                                                                       CTGGAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30
206
293
                                         CCAACCCGAATTTTCTCTTATCTTTGCCTGCCAGCGAGATGTCCTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22
34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₽,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6.29e-22
466.50
53.01%
33.73%
12.90%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             148
381
293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        42407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; DS_phosphatase.
; MAPK_phosph.
; Rhodanese-like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYR phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RHODANESE.

PROTEIN-TYROSINE P
PHOSPHOCYSTEINE IN
SHMILARITY).

W -> G (IN REF. 1;
L -> F (IN REF. 1;
L -> F (IN REF. 1;
                                                                                                                                                                                                                                                                                                                                                                                                                              (1-1995) x DUS6_MOUSE (1-381)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7EA1FB154F4AD2DA
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ۲,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INTERMEDIATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BAB26093)
                                                                                                                                                                                                                                                                                                                                                                                                                                                     107
49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BAB26093).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  381
112
64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (BY
          588
                              224
                                                                    204
                                                                                       474
                                                                                                                              474
                                                                                                                                                 164
                                                                                                                                                                    462
                                                                                                                                                                                        146
                                                                                                                                                                                                           405
                                                                                                                                                                                                                                                                                        285
                                                                                                                                                                                                                             126
                                                                                                                                                                                                                                                                     106
                                                                                                                                                                                                                                                                                                            98
                                                                                                                                                                                                                                                                                                                               231
                                                                                                                                                                                                                                                                                                                                                 66
                                                                                                                                                                                                                                                                                                                                                                     174
                                                                                                                                                                                                                                                                                                                                                                                                          114
                                                                                                                                                                                                                                                                                                                                                                                        46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ъ
```

밁 Ś 밁 Ş

```
DESULT 9
DUS6 RATU
DUS 01-N
DT 01-N
DT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         D DUSG RAT

D DUSG RAT

C Q64346;

T 01-NOV-1997 (Rel. 35, Created)

DT 01-NOV-1997 (Rel. 35, Last sequence update)

DT 01-NOV-1997 (Rel. 35, Last sequence update)

DT 10-OCT-2003 (Rel. 42, Last annotation update)

DE Dual specificity protein phosphatase 6 (EC 3.1.3.48)

DE (Mitogen-activated protein kinase phosphatase 3) (MKP-3).
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                    "A novel cytoplasmic dual specificity protein tyrosine phospha implicated in muscle and neuronal differentiation.";

J. Biol. Chem. 271:3795-3802(1996).

-i- FUNCTION: Inactivates MAP kinases. Has a specificity for teamily. Implicated in muscle and neuronal differentiation.

-i- CANTALTTIC ACTIVITY: Protein tyrosine phosphate + H(2)0 = p.

-i- CANTALTTIC ACTIVITY: A phosphoprotein + H(2)0 = a protein +
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mourey R.J., Vega Q.C., Campbell J. Krebs E.G., Dixon J.E.;
"A novel cytoplasmi."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN-Spraque-Dawley; TISSUB=Neuron;
MEDLINE=96224012; PubMed=8626780;
Muda M., Boschert U., Dickinson R., Martinou J.C., Martinou Camps M., Schlegel W., Arkinstall S., Martinou J.C., Martinou "MKP-3, a novel cytosolic protein tyrosine phosphatase that phosphatase.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A. MEDLINE=96216487;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=10116;
                                                                                              phosphate.
SUBCELLULAR LOCATION: Cytoplasmic.
SINGLEARITY: Belongs to the protein-tyrosine phosphatase
Non-receptor class dual specificity subfamily.
SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAGAAGATTAAGAACCAGACTGGAGCATCAGGGCCA 921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ArgThrLeu---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerGlnAsnLeuSerGlnPhePheProGluAlaIleSerPheIleAspGluAlaArgGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AsnLeuPheGluAsnAlaGlyGluPheLysTyrLysGlnIleProIleSerAspHisTrp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGCCT----GACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LeuAspValLeuGluGluPheGlyIleLysTyrIleLeuAsnValThrProAsnLeuPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    271:4319-4326(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlyLeuSerSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Wenderoth M.P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (MAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (EC 3.1.
P kinase
                                                                                                                                                                                                                                                                                                                                                                                                                              phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hauschka
                                                                                                                                                                                                                                                                                                                                                 for the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3.1.3.16)
                                                                                                                                                                family.
                                                                                                                                                                                                                                                                                             protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S.D.,
                                                                                                                                                                                                                                                                                                                                                 ERK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   645
```

modified and this st

its content

for,

n no way

in

```
음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best I
Query
DB:
                                                                                                                                              밁
                                                                                                                                                              ð
                                                                                                                                                                                      밁
                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                र्
                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                   ঠ
                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                     ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                             밁
                                                               ઈ
                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-029-345A-108_COPY_538_2532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local S:
y Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              entities
or send a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
DOMAIN
ACT_SI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PROSITE; PS50206; RHODANESE 3; 1.

PROSITE; PS00383; TYR_PHOSPHATASE 1; FALSE

PROSITE; PS50056; TYR_PHOSPHATASE 2; 1.

PROSITE; PS50054; TYR_PHOSPHATASE_DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pfam; PF00782; DSPC; 1.
Pfam; PF00581; Rhodannese; 1.
PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPC; 1.
SMART; SM00450; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; X94185; CAA63895.1; -.
EMBL; U42627; AAB06202.1; -.
HSSP; Q16828; IMKP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hydrolase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               L_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Scores:
 185
                                                                                                147
                                                                                                                       406
                                                                                                                                                127
                                                                                                                                                                        346
                                                                                                                                                                                                 107
                                                                                                                                                                                                                                                                         232
                                                                                                                                                                                                                                                                                                                                                                         115 ACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTG
                                                                                                                                                                                                                                               87
                                                                                                                                                                                                                                                                                                                                                 47
                                                                                                                                                                                                                                                                                                67
                                                                                                                                                                                                                                                                                                                                                                                                  27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             non-profit institutions as long as d and this statement is not removed. Us requires a license agreement (See htt an email to license@isb-sib.ch).
AspArgAspProAsnSerAlaThrAspSerAspGlySerProLeuSerAsnSerGlnPro
                                                                                                                       TGTGAAGGAAAATCCACTCTAGTCCCTACCTGC---ATTTCTCAGCCTTGCTTACCTGTT
                                                                                                                                              CysargalaPheTyrLeuGluGlyGlyPheSerLysPheGlnAlaGluPheAlaLeuHis
                                                                                                                                                                       AACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTC
                                                                                                                                                                                              GluAsnThrGlyGlyGluSerValLeuGlyLeuLeuLysLysLeuLysAspGluGly
                                                                                                                                                                                                          GCCTCTCTCTCAGACTGTTTTCTCACCTGTACTTCTGGGTAAACTGGAGAAGAGCTTC
                                                                                                                                                                                                                                                                       GACATTGATTGC---AGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGAT---GTT
                                                                                                                                                                                                                                                                                                                       CAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCAT---TCAGCGAAACATAAGGTT
                                                                                                                                                                                                                                                                                                                                              SerSerHisIleGluSerAlaIleAsnValAlaIleProGlyIleMetLeuArgArgLeu
                                                                                                                                                                                                                                                                                                                                                                                              LeuGlyLeuGlyGlyLeuArgIleSerSerAspSerSerSerAspIleGluSerAspLeu
                                                                         GCCAACATTGGG-----
                                                                                               CysGlu-----ThrAsnLeuAspGlySerCysSerSerSerSerProProLeuProVal
                                                                                                                                                                                                                                              {\tt ThrArgArgCysGlyThrAspThrValValLeuTyrAspGluAsnSerSerAspTrpAsn}
                                                                                                                                                                                                                                                                                               GinLysGlyAsnLeuProValArgAlaLeuPheThrArgCysGluAspArgAspArgPhe
                                                                                                                                                                                                                                                                                                                                                                                                                         CTGGAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IPR000340; DS phosphatase.
IPR008343; MAPK phosph.
IPR001763; Rhodanese-like.
IPR000387; TYR phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30
206
293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7.26e-22
465.50
53.01%
33.73%
12.88%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  148
381
293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          42318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYR_phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ₩.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RHODANESE.
PROTEIN-TYROSINE IPHOSPHOCYSTEINE IN SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                              (1-1995) x DUS6_RAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C511E00CB68F2888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FALSE_NEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        . Usage by and for commercial http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INTERMEDIATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                (1-381)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       381
112
64
107
49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (BY
                                                                                                                         462
                                                                                                                                                146
                                                                                                                                                                                                 126
                                                                                                                                                                                                                                                                                                86
                                                                                                                                                                                                                                                                                                                                                                         174
                        474
                                                184
                                                                         474
                                                                                                164
                                                                                                                                                                                                                                                                                                                       231
                                                                                                                                                                                                                                                                                                                                                 99
                                                                                                                                                                                                                                                                                                                                                                                                  46
```

```
RESULT

DUS-4-II

DUS-4-II

DUS-4-II

DUS-4-II

DUS-4-II

DUS-3-II

DUS-4-II

DUS-4-II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멼
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DUS4 HUMAN STANDARD; PRT; 394 AA.
Q13115; Q13524;
Q1-NOV-1997 (Rel. 35, Created)
O1-NOV-1997 (Rel. 35, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 4 (EC 3.1.3.48) (
(Mitogen-activated protein kinase phosphatase-2) (MAP
phosphatase-2) (MKP-2) (Dual specificity protein phosp
DUSP4 OR MKP2 OR VH2.
SEQUENCE FROM N.A.
TISSUE-Skin, and Uterus;
TISSUE-Skin, and Uterus;
MEDLINE=20388257, PubMed=12477932;
Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
Strausher R.D., Collins F.S., Wagner L., Shenmen C.M., Sch
                                                                                                                                                                                                                             Chu Y., Solski P.A., Khosravi-Far R., Der C.J., Kelly K.; "The mitogen-activated protein kinase phosphatases PAC1, MKP-1, MKP-2 have unique substrate specificities and reduced activity toward the ERK2 sevenmaker mutation."; J. Biol. Chem. 271:6497-6501(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Isolation and characterization of a nove HVH2, which selectively dephosphorylates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. MEDLINE=95221370;
                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
MEDLINE=96198119; PubMed=8626452;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein kinase.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Guan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                  Biol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   K.-L., Butch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MetLysLysSerAsnIleSerProAsnPheAsnPheMetGlyGlnLeuLeuAspPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                  Chem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                serGlnAsnLeuSerGlnPhePheProGluAlaIleSerPheIleAspGluAlaArgGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ArgThrLeu--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGAAGATTAAGAACCAGACTGGAGCATCAGGGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AsnLeuPheGluAsnAlaGlyGluPheLysTyrLysGlnIleProIleSerAspHisTrp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAGCCT---GACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LeuAspValLeuGluGluPheGlyIleLysTyrIleLeuAsnValThrProAsnLeuPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAGGAGCTGATACAGCAGAATGGGGATTGGTTATGTGTTAAATGCCCAGCTATACCTGTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SerPheProValGluIleLeuProPheLeuTyrLeuGlyCysAlaLysAspSerThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -----CCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                  270:7197-7203 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PubMed=7535768;
E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Craniata; Vo
Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ·GlyLeuSerSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 el dual specific phosp
the mitogen-activated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (EC 3.1.3.16)
P kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      phosphatase,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                hVH2)
                                                                                                                                                                                                                                                                                   in
                                                                                                                                                                                                                                                                                   VÍVO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     244
```

```
Percent Similarity:
Best Local Similari
                                                                                        Alignment Scores: Pred. No.:
                                     Query Match:
                                                                                                                                                                                                                                                                                  InterPro; IPR000340; DS phosphatase.
InterPro; IPR008343; MAPK phosph.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; TYR phosphatase.
Pfam; PF00782; DSPc; 1.
Pfam; PF00581; Rhodanese; 1.
PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPc; 1.
SMART; SM00450; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E., A Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C., A Raha S.S., Loquellano N.A., Peters G.J., Abramora R.D., Mullahy S.J. A Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunarathe P.H., A Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W. A Willalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A. Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., A Hakesley R.W., Touchman J.W., Green E.D., Dickson M.C., A Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., A Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E., "Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; U21108; AAA85119.1;
EMBL; U48807; AAC50452.1;
EMBL; BC002671; AAH502671.1;
EMBL; BC014565; AAH14565.1;
HSSP; Q16828; IMKP.
Genew; HGNC:3070; DUSP4.
MIM; 602747;
                                                                                                                                     CONFLICT
SEQUENCE
                                                                                                                                                                                                          PROSITE; PSS0206; RHODANESE 3; 1.
PROSITE; PS00383; TYR PHOSPHATASE 1; 1.
PROSITE; PSS0056; TYR PHOSPHATASE 2; 1.
PROSITE; PSS0054; TYR PHOSPHATASE DUAL; 1.
Hydrolase; Nuclear protein.
                                                                                                                                                                                                                                                                                                                                                                                                    GO; GO:0005634; C:nucleus, TAS.
GO; GO:0008330; F:protein tyrosine/threonine phosphatase acti.
GO; GO:0000165; P:MAPKKK cascade; TAS.
GO; GO:0006470; P:protein amino acid dephosphorylation; TAS.
                                                                                                                                                                             ACT_SITE
                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way endified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    human and mouse cDNA sequences.";
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
-i- FUNCTION: Regulates mitogenic signal transducti
dephosphorylating both Thr and Tyr residues on
ERK1 and ERK2.
                                              Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              phosphate.
SUBCELLULAR LOCATION: Nuclear.
SIMILARITY: Belongs to the protein-tyrosine phonon-receptor class dual specificity subfamily.
SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tyrosine + phosphate.
CATALYTIC ACTIVITY: A phosphoprotein + H(2)0 = a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)0 =
                                                                                                                                                                             41
197
280
                                                                                                                                   AA;
                             1.06e-20
447.00
50.38%
30.89%
12.37%
                                                                                                                                  42953
                                                                                                                                MW;
                                                                                                                                           SIMILARITY)
R -> G (IN
                                                                                                                                                                    PROTEIN-TYROSINE PHOSPHOCYSTEINE J
                                                                                                                                                                                                    RHODANESE
                                                                                                                           0603971759B6952E
                                      Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                           (IN REF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  transduction
                                                                                                                                         2)
                                                                                                                                                                    INTERMEDIATE
                                                                                                                                                                                  PHOSPHATASE
                                                                                                                          CRC64;
                        394
122
77
141
55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              phosphatase family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     kinases
                                                                                                                                                                     (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sanchez A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         collaboration.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Y S.J.,
P.H.,
K S.W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                         TAS
                                           B
                                                                 δ
                                                                                               밁
                                                                                                                        Ś
                                                                                                                                                       몽
                                                                                                                                                                                  δ
                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                  Дb
                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                          뮍
                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-029-345A-108_COPY_538_2532 (1-1995) x DUS4_HUMAN (1-394)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB:
                                                                                                 323
                                                                                                                                                          303
                                                                                                                                                                                     801
                                                                                                                                                                                                                                                                          263
                                                                                                                                                                                                                                                                                                                                243
                                                                                                                                                                                                                                                                                                                                                             621
                                                                                                                                                                                                                                                                                                                                                                                        224
                                                                                                                                                                                                                                                                                                                                                                                                                    561
                                                                                                                                                                                                                                                                                                                                                                                                                                                 204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84
AGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             45
                                                      AAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGGCCAAATGAACCTGTCCCTGCTGTCTC
                                                                                                               TCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAACCAGACTGGAGCATCAGGGCC
                                                                                                                                      |:::||||||::: ||||||||::::|||
|uGluGluAlaPheGluPheValLysGlnArgArgSerIleIleSerProAsnPheSerPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26 GlydlyAlaGlydly-SerGlySerHisGlyThrLeuGlyLeuProSerGlyGlyLysCy
                                         aAlaSer----
                                                                                               eMetGlyGlnLeuI
                                                                                                                                                               AGATGAAGCTTACAGATTTGTGAAAGAAAAAAAGACCTACTATATCTCCAAACTTCAATTT
                                                                                                                                                                                                                       GATCTCCCGCTCCGGCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 45
                                                                                                                                                                                                   yīleSerArgSerAlaThrīleCysLeuAlaTyrLeuMetMetLysLysArgValArgLe
                                                                                                                                                                                                                                                            eGluTyriieAspAlavalLysAspCysArgGlyArgValLeuValHisCysGlnAlaGl
                                                                                                                                                                                                                                                                             AGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTTTCTAGTGCACTGTTTAGCTGG
                                                                                                                                                                                                                                                                                                                  {\tt sCysIleProValGluAspAsnHisLysAlaAspIleSerSerTrpPheMetGluAlaIl}
                                                                                                                                                                                                                                                                                                                                              GCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAATCAGT 680
                                                                                                                                                                                                                                                                                                                                                                        aLeuLeuAsnValSerSerAspCysProAsn---HisPheGluGlyHisTyrGlnTyrLy
                                                                                                                                                                                                                                                                                                                                                                                                      TGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                  rLeuGlySerAlaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGlyileThrAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rSerCysGlyThrProLeuHisAspGlnGlyGlyProValGluIeLeuDroPheLeuTy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----TGC---TTACCTGTTGCCAACATT----GGGCCAACCCGAATTCTTCCCCAATCTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 uAlaAlaIleProProProValProProSerAlaThrGluProLeuAspLeuGlyCysSe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sGlyGlyTyrGluArgPheSerSerGluTyrProGluPheCysSerLysThrLysAlaLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCCTGGGCCTCTGTGAAGGAAAATCCACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               lSerLeuValValGlnAlaLeuArgArgAsnAlaGluArgThrAspIleCysLeuLeuLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC----AACTCTGTTCACCTGGTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       aValīleValīyrAspGluArgSerProArgAlaGluSerLeuArgGluAspSerThrVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              uGlnIleLeuProAlaGluGluGluValArgAlaArgLeuArgSerGlyLeuTyrSerAl 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGAGCTCATC----CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              lAsnValArgCysAsnThrIleValArgArgArg---AlaLysGlySerValSerLeuGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGTGGCTCTGCTGGAAAGTGGAACGGAA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ۲
                                                                                   LeuGlnPheGiuSerGlnValLeuAlaThrSerCysAlaAlaGluAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -GTCCCTACCTGCATTTCTCAGCCT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAAGT
                                                                                     343
                                                                                                                 920
                                                                                                                                            323
                                                                                                                                                                        860
                                                                                                                                                                                                   303
                                                                                                                                                                                                                                800
                                                                                                                                                                                                                                                            283
                                                                                                                                                                                                                                                                                                                  263
                                                                                                                                                                                                                                                                                                                                                                          243
                                                                                                                                                                                                                                                                                                                                                                                                                                   224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 65
```

```
DUSAUCT 11

DUSAUCT 11

DUSAUCT 11

DUSAUCT 11

AC DUSAUCT 16-0CT 16-0CT 16-0CT 16-0CT 10-0CT 16-0CT 10-0CT 16-0CT 16-0CT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 4 (EC 3.1.3.48) (EC 3.1.3.16)
(Mitogen-activated protein kinase phosphatase-2) (MAP kinase phosphatase-2) (MKP-2).
                                                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gallus gallus (Chicken).

Gallus gallus (Chicken).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Eukaryota; Metazoa; Chordata; Galliformes; Phasianidae; Phasianinae;
PROSITE; PS50266; RHÓDANESE 3; 1.
PROSITE; PS00383; TYR PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR PHOSPHATASE DUAL;
PHYdrolase; Nuclear protein.
DOMAIN 25 143 PROTEIN-TYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      phosphate.
-!- SUBCELLULAR LOCATION: Nuclear (By similarity).
-!- SIMILARITY: Belongs to the protein-tyrosine phonon-receptor class dual specificity subfamily.
-!- SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Identification and characterization of genes upregulated transformed by ~Jun.",
Oncogene 19:3537-3545(2000).
-I- FUNCTION: Regulates mitogenic signal transduction by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN=White leghorn;
MEDLINE=20379359; PubMed=10918612;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DUS4_CHICK
Q9PW71;
                                                                                                                                           SMART; SM00195; DSPC;
SMART; SM00450; RHOD;
                                                                                                                                                                                                       Pfam; PF00782; DSPC; 1.
Pfam; PF00581; Rhodanese; 1.
                                                                                                                                                                                                                                                                                                                                                     EMBL; AF167296; AAD46656.1; -.
                                                                                                                                                                                    PRINTS; PR01764; MAPKPHPHTASE
                                                                                                                                                                                                                                                                                                                                    HSSP; Q16828;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9031;
                                                                                                                                                                                                                                                  InterPro; IPR000387;
                                                                                                                                                                                                                                                                        InterPro;
                                                                                                                                                                                                                                                                                           InterPro;
                                                                                                                                                                                                                                                                                                              InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             dephosphorylating both Thr and Tyr residues on
and ERK2 (By similarity).
CATALYTIC ACTIVITY: Protein tyrosine phosphate
tyrosine + phosphate.
CATALYTIC ACTIVITY: A phosphoprotein + H(2)O =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  uProTyrLeu-----HisSerProIleThrThrSerProSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCGCTCAGT 1143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGAGGCAGCAGAAAGGCCCGTGCATCCCGCCAGCGTGCCCAGCGTGCCCAGCGTGCA 1100
                                                                                                                                                                                                                                          IPR000340; DS phosphatase.
IPR008343; MAPK phosph.
IPR001763; Rhodanese-like.
IPR000387; TYR phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rGlnPheValPheSerPheProVal----SerValGlyValHisSerAlaProSerSerLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
RHODANESE.
PROTEIN-TYROSINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 375
                                                              ۳
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          phosphate + H(2)O = protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A
  PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |||||
|----Thrse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   kinases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local .
Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment
Pred. No.:
                                  5
                                                                                   밁
                                                                                                                      δ
                                                                                                                                                              멍
                                                                                                                                                                                               5
                                                                                                                                                                                                                                              멍
                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                     멼.
                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                                                               맑
                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-029-345A-108_COPY_538_2532 (1-1995) x DUS4_CHICK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                        496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scores:
    283
                                                                                   263
                                                                                                                                                                   243
                                                                                                                                                                                                                                                  223
                                                                                                                                                                                                                                                                                                                                  204
                                                                                                                                                                                                                                                                                                                                                                                                                 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      130 GAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27 GlyArgCysLeuLeuAspCysArgProPheLeuAlaHisSerAlaGlyHisIleArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            70 GAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCCCACATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10 GAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAAAGTGGAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       φ
  GluMetGluGlySerAlaLeu-----ArgArgLeuValGlyArgGluGluAlaSerGly
                                    TCTTTAGATGAAGCTTACAGATTTGTGAAAGAAAAAAAGACCTACTATATCTCCAAACTTC
                                                                                                                                                                                        TCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTTCTAGTGCACTGTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PheSerSerCysGlyThrProLeuHisAspGlnGlyGlyProValGluIleLeuProPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerLeuGluGlnIleLeuProAlaGluGlyGluValArgAlaArgLeuArgAlaGlyLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATG
                                                                                                                                                                   AlaIleGluTyrIleAspSerValLysGluCysCysGlyArgValLeuValHisCysGln
                                                                                                                                                                                                                                                                          TTCCTGCGTGTGCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAA
                                                                                                                                                                                                                                                                                                                                  ThrAlaLeuLeuAsnValSerSerAspCysProAsn---HisPheGluGlyHisTyrGln
                                                                                                                                                                                                                                                                                                                                                     LeuTyrLeuGlySerAlaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGlyIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LysThrLeu-----SerSerIleSerProProSerSerAlaGluSerLeuAspLeuGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCCACTCTAGTCCCTACCTGCATTTCTCAGCCT------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerThrValAlaLeuValLeuArgAlaLeuArgArgAspMetAlaArgAlaAspIleArg
                                                                                                                                                                                                                                                TyrLysCysIleProValGluAspAsnHisLysAlaAspIleSerSerTrpPheMetGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----TGC---TTACCTGTTGCCAACATT---GGGCCAACCCGAATTCTTCCCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC-----AACTCTGTTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TyrThrAlaValValLeuTyrAspGluArgSerProArgAlaGluAlaLeuArgAspAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTAATTACAGAGCTCATC----CAGCATTCAGCGAAACATAAGGTTGACATTGATTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuLeuAlaGlyGlyTyrGluArgPheAlaSerGluTyrProGluPheCysAlaLysThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A
A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              444.00
49.49%
31.06%
12.28%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              41052 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .61e-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PHOSPHOCYSTEINE INTERMEDIATE SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                179290D0C2BEEEF1 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ::
=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               375
123
73
152
48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (1-375)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     105
      302
                                          855
                                                                                   282
                                                                                                                                                                                                           735
                                                                                                                                                                                                                                                    242
                                                                                                                                                                                                                                                                                           675
                                                                                                                                                                                                                                                                                                                                  222
                                                                                                                                                                                                                                                                                                                                                                                                                 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                          558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              129
```

```
PRESULT 12

DUS4 PAT

ID DUS4 PAT

AC 06276

PT 15-JU

DT 15-JU

DT 10-OC

DE DING1

DE DING1

OC EURA:

OC RATE:

OC Mamma

OX MARDI

RP SEQU

RX MEDI

RA Mis:

RX MEDI

RA Mis:

RX MEDI

RA Mis:

CC -!-

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          X MEDLINE-95301550; PubMed=7782322;

X MEDLINE-95301550; PubMed=7782322;

M hisra-Press A., Rim C.S., Yao H., Roberson M.S., Stork P.J.S.;

A novel mitogen-activated protein kinase phosphatase. Structure,

T expression, and regulation.";

J. Biol. Chem. 270:14587-14596(1995).

C -i- FUNCTION: Regulates mitogenic signal transduction by

C -i- FUNCTION: Regulates mitogenic signal transduction by

C -i- Garditate mitogenic signal transduction by

and ERK2 (By similarity).

C -i- CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)O = pro-

C -i- CATALYTIC ACTIVITY: A phosphoprotein + H(2)O = a protein +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         유 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                use by non-profit institutions as long as its content modified and this statement is not removed. Usage by are requires a license agreement (See http://www.isb-orsend an email to license@isb-sib.ch).
                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EM the European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE=Pheochromocytoma,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rattus norvegicus (Rat).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
10-CCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 4 (EC 3.1.3.48) (
Mitogen-activated protein kinase phosphatase-2) (MAP
phosphatase-2) (MKP-2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DUS4_RAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q627<del>6</del>7;
                                                                                                                                                                                                                                              TISSUE SPECIFICITY: Expressed at moderate levels in nearly all tissues and cells including brain, spleen, and testes with the higher expression in the heart and lung and lower expression in many areas of the brain with very strong expression in the hippocampus, piriform cortex, and the suprachiasmatic nucleus. INDUCTION: By mitogens and by stress. SIMILARITY: Belongs to the protein-tyrosine phosphatase family. SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    phosphate.
SUBCELLULAR LOCATION: Nuclear
                                                  U23438; AAC52493.1;
Q16828; 1MKP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          976
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      916
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerLeuProTyrLeu-----HisSerProIleThrThrSerProSer 374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |||||||:::
|ThrSerGlnPheValPheSerPheProVal---SerValGlyValHisAlaThrProSer 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTGCCCAGCGTGCCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCCTGTGCCGACTCTGCT 1035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LeuArgGluArgGlyLysAlaThrSerThrPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGACTGGAGCATCA :::||| :::::: |||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GluAlaAlaSer----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STANDARD;
                                                                                                               (See http://www.isb-sib
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Stork P.J.S.;
atase. Structure,
                                                                                                                                                                      he EMBL outstation restrictions on it
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (EC 3.1.3.16)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    kinases
                                                                                                                                                                                                                    þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProSerGlyThr
                                                                                                                                   for
                                                                                                                                                                                         collaboration \tau. outstation -
                                                                                                           .ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein
                                                                                                                                                      'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ERK1
                                                                                                                                 commercia]
                                                                                                                                                      ņ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 915
                                                           Ş
                                                                                                밁
                                                                                                                                     S
                                                                                                                                                                                   В
                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                  뫄
                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                              멍
                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-029-345A-108_COPY_538_2532 (1-1995) x DUS4_RAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS00383; TYR PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR PHOSPHATASE DUAL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPc; 1.
SMART; SM00450; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam; PF00782; DSPc; 1.
Pfam; PF00581; Rhodanese; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        [nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro;
                                                                                                                                         523
                                                                                                                                                                                   193
                                                                                                                                                                                                                                                                  173
                                                                                                                                                                                                                                                                                                       454
                                                                                                                                                                                                                                                                                                                                                155
                                                                                                                                                                                                                                                                                                                                                                                        394
                                                                                                                                                                                                                                                                                                                                                                                                                               135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               280 GATGTTGCCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAG 339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           106 GAATACAATACATCCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAG 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    56 AlaHisSerAlaGlyTyriieArgGlySerValAsnValArgCysAsnThrIleValArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   38 LeuGlyLeuLeuSerGlyGly-----LysCysLeuLeuLeuAspCysArgProPheLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          46 GTGGCTCTGCTGGAAAGTGGAAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTG
CysProAsn---HisPheGluGlyHisTyrGlnTyrLysCysIleProvaiGluAspAsn
                                       TGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGC
                                                                              CTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACC
                                                                                                                                                             AspGlnGlyGlybrovalGluIleLeuProPheLeuTyrLeuGlySerAlaTyrHisAla
                                                                                                                                                                                                                                            ProproSerThrAsnGluSerLeuAspLeuGlyCysSerSerCysGlyThrProLeuHis
                                                                                                                                                                                                                                                                                                                                                                  TTCCCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGC
                                                                                                                                                                                                                                                                                                TTACCTGTTGCCAACATT--
                                                                                                                                                                                                                                                                                                                          TyrProGluPheCysSerLysThrLysAlaLeu-----AlaAlaIleProProProVal 172
                                                                                                                                                                                                                                                                                                                                                                                                         AsnAlaGluArgThrAspIleCysLeuLeuLysGlyGlyTyrGluArgPheSerSerGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ArgAlaGluSerLeuArgGluAspSerThrValSerLeuValValGlnAlaLeuArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                          AGCTTC-----AACTCTGTTCACCTGCTTGCAGGTTGGGTTTGCTGAGTTCTCTCGTTGT 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAACATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ::: ::::::
ArgAlaArgLeuArgSerGlyLeuTyrSerAlaValIleValTyrAspGluArgSerPro 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ArgArg---AlaLysGlySerValSerLeuGluGlnIleLeuProAlaGluGluGluVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGAAGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATC-----CAGCATTCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nuclear protein.
42
160
198
395
281
281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IPRO00340; DS_phosphatase.
IPRO08343; MAPK_phosph.
IPRO01763; Rhodanese-like.
IPR000387; TYR_phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ΑA;
                                                                                                                                                                                                      GGGCCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3.12e-20
439.50
48.84%
30.49%
12.16%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        43187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROTEIN-TYROSINE PHOSPHATASE. PHOSPHOCYSTEINE INTERMEDIATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RHODANESE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A90EFFD378A050FD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (1-395)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             147
51
12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (BY
                                         642
                                                                                                                        582
                                                                                                                                                                                                                                                192
                                                                                                                                                                                                                                                                                     471
                                                                                                                                                                                                                                                                                                                                                                    453
                                                                                                                                                                                                                                                                                                                                                                                                           154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               219
```

ð

밁 ş 믕

```
DUS1 MOUSE
ID DUS1 AC P2856
DT 01-DE
DT 01-DE
DT 15-MA
DE DUS1
DE (MAP
DE 3CH13
DE (MAP
DE 3CH13
CO EUKAS GO
OC EU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P28563;
SEQUENCE FROM N.A.
STRAIN=Czech II; TISSUE=Mammary gland;
MEDLINE=22388257; PubMed=12477932;
                                                                                                             MEDLINE-93360956; PubMed-8355678;
Noguchi T., Metz R., Chen L., Mattei M.-G., Carrasco D., Bravo R.;
"Structure, mapping, and expression of erp, a growth factor-inducible gene encoding a nontransmembrane protein tyrosine phosphatase, and effect of ERP on cell growth.";
Mol. Cell. Biol. 13:5195-5205(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                           "Charles C.H., Abler A.S., Lau L.F.;
"CDNA sequence of a growth factor-inducible immediate early characterization of its encoded protein.";
Oncogene 7:187-190(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-DEC-1992 (Rel. 24, Created)
01-DEC-1992 (Rel. 24, Last sequence update)
15-MAR-2004 (Rel. 43, Last annotation update)
Dual specificity protein phosphatase 1 (EC 3.1.3.48)
(MAP kinase phosphatase-1) (MKP-1) (Protein-tyrosine 3CH134) (Protein-tyrosine phosphatase ERP).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=92158357; PubMed=1741163;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN=BALB/c;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DUSP1 OR PTPN10 OR MKP1 OR 3CH134 OR PTPN16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  643
                                                                                                                                                                                                                                                                                                                                                             FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ProIleThrThrSerProSer 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGCTGGTACAGGCGCTCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTGCATCCCGCCAGCGTGCCCAGCGTGCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACCTGGAGAAGCCAAATGAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GluSerGlnValLeuThrThrSerCysAlaAlaGluAlaAlaSer---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAGAAGAAGATTAAGAACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAAGAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CysLeuAlaTyrLeuMetMetLysLysArgValArgLeuGluGluAlaPheGluPheVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AspCysArgGlyArgValLeuValHisCysGlnAlaGlyIleSerArgSerAlaThrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HisLysAlaAspileSerSerTrpPheMetGluAlaIleGluTyrileAspAlaValLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Val---SerValGlyValHisAlaAlaProSerAsnLeuProTyrLeu-----HisSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ThrPro--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LysGlnArgArgSerIleIleSerProAsnPheSerPheMetGlyGlnLeuLeuGlnPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chordata; Craniata; Vertebrata; Euteleostomi; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -ProSerGlyPro-----LeuArgGluArgGlyLysAlaThrPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u>:</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ThrserGlnPheValPheSerPhePro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                =
=
=
=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (EC 3.1.3.16)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1062
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 271
```

S

ş

ð

S 밁 S 밁

```
RA Klausherg R.L., Peingold E.A., Grouse L.H., Derge J.G.,
RA Klausher R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altechul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Raha S.S., Morley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Richards N., Warny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Willalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Butterfield Y.S.N., Krzywinski M.I., Schmutz J., Myers R.M.,
"Generation and initial analysis of more than 15,000 full-length
"Thuman and mouse cDNA sequences.";

PYCC. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002).
                   DOMAIN
ACT SITE
MUTAGEN
                                                                                                                                                                             PRINTS; PRO1764; MAPKPHPHTASE.
SMART; SM00195; DSPc; 1.
SMART; SM00450; RHOD; 1.
                                                                                                                                                                                                                                  InterPro; IPR000340; DS phosphatase.
InterPro; IPR008343; MAPK phosph.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR000387; TYR phosphatase
Pfam; PP00782; DSPc; 1.
Pfam; PP00581; Rhodanese; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             between the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fo entities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -!- FUNCTION: Dual specificity phosphatase that dephosphorylates MAP kinase ERK2 on both Thr-183 and Tyr-185.
-!- CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)0 = protein tyrosine + phosphate.
-!- CATALYTIC ACTIVITY: A phosphoprotein + H(2)0 = a protein +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      specificity phosphatase that dephosphorylates MAP (ell 75:487-493 (1993).
                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; X61940; CAA43944.1; -.
EMBL; S64851; AAB27882.1; -.
EMBL; BC006967; AAH06967.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=94037096; PubMed=8221888;
Sun H., Charles C.H., Lau L.F., Tonks N.K.;
"MKP-1 (3CH134), an immediate early gene pr
   SEQUENCE
                                                                                                      PROSITE; PS50206; RHODAMESE 3; 1.
PROSITE; PS00383; TYR_PHOSPHATASE 2; 1.
PROSITE; PS50056; TYR_PHOSPHATASE_DUAL;
PROSITE; PS50054; TYR_PHOSPHATASE_DUAL;
                                                                                                                                                                                                                                                                                                                                                 HSSP; Q16828; 1MKP.
MGD; MGI:105120; Dusp1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CHARACTERIZATION.
                                                                          Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                   PIR; A54681; S24411.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      phosphate.
INDUCTION: By growth factors.
SIMILARITY: Belongs to the protein-tyrosine phonon-receptor class dual specificity subfamily.
SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SWISS-PROT entry is copyright.
20
175
258
258
367
 AA,
                    1 cycle.
137
367
3 258
   39369
                                                                                                                                                                                                                                                                         TYR_phosphatase
   ₩.
                 PROTEIN-TYROSINE PHOSPHATASE PHOSPHOCYSTEINE INTERMEDIATE C->S: LOSS OF ACTIVITY.
                                                                            RHODANESE.
   50B5F90FEBBD19AB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          It is produced through
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  is a dual kinase in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    vivo.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
```

Alignment Scores:

```
δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No.:
Score:
Percent Similarity:
Best Local Similarit
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                               뭕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-029-345A-108_COPY_538_2532
310
                                                                                826
                                                                                                            270
                                                                                                                                      766
                                                                                                                                                                  250
                                                                                                                                                                                             706
                                                                                                                                                                                                                       230
                                                                                                                                                                                                                                                  646
                                                                                                                                                                                                                                                                               211
                                                                                                                                                                                                                                                                                                         586
                                                                                                                                                                                                                                                                                                                                    191
                                                                                                                                                                                                                                                                                                                                                                 526
                                                                                                                                                                                                                                                                                                                                                                                          171
                                                                                                                                                                                                                                                                                                                                                                                                                      472
                                                                                                                                                                                                                                                                                                                                                                                                                                               151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity:
              AAGAAGATTAAGAACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCAC
SerGlnVal-
                                         GlnArgArgSerIleileSerProAsnPheSerPheMetGlyGlnLeuLeuGlnPheGlu
                                                           GAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAG
                                                                                                                                                                      TCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCACCATCGCT
                                                                                                LeuAlaTyrLeuMetArgThrAsnArgValLysLeuAspGluAlaPheGluPheValLys
                                                                                                                          ATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAA
                                                                                                                                                      AlaGlyGlýArgvalPhevalHisCysGlnAlaGlyIleSerArgSerAlaThrIleCys
                                                                                                                                                                                                          LysAlaAspileSerSerTrpPheAsnGluAlaIleAspPheIleAspSerIleLysAsp
                                                                                                                                                                                                                                        TGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCC
                                                                                                                                                                                                                                                                 ProAsn---HisPheGluGlyHisTyrGlnTyrLysSerIleProvalGluAspAsnHis
                                                                                                                                                                                                                                                                                             CCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTT
                                                                                                                                                                                                                                                                                                                        ArgLysAspMetLeuAspAlaLeuGlyIleThrAlaLeuIleAsnValSerAlaAsnCys
                                                                                                                                                                                                                                                                                                                                                   AACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGT
                                                                                                                                                                                                                                                                                                                                                                              GlnGlyGlyProValGluIleLeuSerPheLeuTyrLeuGlySerAlaTyrHisAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                 {\tt ThrSerValProAspSerAlaGluSerGlyCysSerSerCysSerThrProLeuTyrAsp}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTTGCAGTTTCTCAGCCT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AlaArgSerThrGlnValPhePheLeuGlnGlyGlyTyrGluAlaPheSerAlaSerCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeuAspGlyAlaLysArgAspGlyThrLeuAlaLeuAlaAlaGlyAlaLeuCysArgGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTTGCCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTG-----GAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GlyArgLeuLeuAlaGlyAlaTyrHisAlaValValLeuLeuAspGluArgSerAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTTACGATCAAAGCTTCCCAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ArgArgAlaLysGlyAlaMetGlyLeuGluHisIleValProAsnAlaGluLeuArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGCGAAGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PheAlaPheAsnAlaGlyHisileAlaGlySerValAsnValArgPheSerThrIleVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTGGAATACAATACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TIGGIGGCTCTGCTGGAAAGTGGAAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LeuArgAlaLeuLeuArgGluGlyAlaAlaGlnCysLeuLeuAspCysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                         -GGGCCAACCCGAATTTTTATCTTGGCTGCCAGCGAGATGTCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7.87e-20
433.00
46.43%
31.59%
11.98%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (1-1995) x DUS1_MOUSE (1-367)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGCTTACCTGTTGCCAACATT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           367
115
54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      151
44
8
                945
                                           309
                                                                       885
                                                                                                  289
                                                                                                                             825
                                                                                                                                                                                                                                        705
                                                                                                                                                      269
                                                                                                                                                                                  765
                                                                                                                                                                                                             249
                                                                                                                                                                                                                                                                                             645
                                                                                                                                                                                                                                                                                                                                                   585
                                                                                                                                                                                                                                                                   229
                                                                                                                                                                                                                                                                                                                          210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 32
```

S 밁 Ś 밁 Ś 밁 S В δ 밁 Ś

```
ALD COCCUENCE CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
DUS1_RA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                               PROSITE; PS50206; RHÓDÂNESE 3; 1.
PROSITE; PS00333; TYR PHOSPHATASE 1; 1.
PROSITE; PS00056; TYR-PHOSPHATASE_2; 1.
PROSITE; PS50056; TYR-PHOSPHATASE_DUAL; 1.
PROSITE; PS50054; TYR-PHOSPHATASE_DUAL; 1.
PROSITE; PS50054; TYR-PHOSPHATASE_DUAL; 1.
PROSITE; PS50054; TYR-PHOSPHATASE_DUAL; 1.
PROSITE; PS50054; TYR-PHOSPHATASE_DUAL; 1.
PROTEIN-TYROS
DOMAIN 175 367 PROTEIN-TYROS
ACT_SITE 258 258 PHOSPHOCYSTEI
                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR000340; D
InterPro; IPR008343; M
InterPro; IPR001763; R
InterPro; IPR000387; T
                                                                                                                                                                                                                                                                        Pfam; PF00782; DSPc; 1.
Ffam; PF00581; Rhodanese; 1.
PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPc; 1.
SMART; SM00450; RHOD; 1.
                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collabora between the Swiss Institute of Bioinformatics and the EMBL outstati the European Bioinformatics Institute. There are no restrictions on use by non-profit institutions as long as its content is in no modified and this statement is not removed. Usage by and for commer entities requires a license agreement (See http://www.isb-sib.ch/annou or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN-Sprague Dawley; TISSUE-Lung;
Muda M., Schlegel W., Arkinstall S.;
Submitted (JAN-1995) to the EMBL/GenBank/DDBJ databases.
-i-FUNCTION: Dual specificity phosphatase that dephosph
kinase ERK2 on both Thr-183 and Tyr-185.
-i-CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2
-yrosine + phosphate.
-i-CATALYTIC ACTIVITY: A phosphoprotein + H(2)O = a pro-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; X84004; CAA58828.1; -. PIR; S52265; S52265.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HSSP; Q16828; 1MKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 1 (EC 3.1.3.48)
(MAP kinase phosphatase-1) (MKP-1) (Protein-tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DUS1_RAT
Q64623;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DUSP1 OR CL100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            phosphate.

SIMILARITY: Belongs to the protein-tyrosine phosphatase Non-receptor class dual specificity subfamily.

SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        946 CTGGAGAAGCCAAATGAAÇCTGTCCCTGCTGTCTCAGAGGGTTGGACAGAAAAGCGAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCCTCAGTCCAÇÇCTGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGÇÇÇÇTÇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ---AlaGluAlaGlySerProAlaMetAlaValLeuAspArgGlyThrSerThrThrThr
                 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HisProThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ValPheAsnPheProValSer---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CATCCCGCCAGC 1077
              A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
              39541
                                                                                                                                                                                                                                                                                                                                                                                                                                         ; DS_phosphatase.; MAPK_phosph.; Rhodanese-like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                               TYR_phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         351
              MW.
                                           RHODANESE.
PROTEIN-TYROSINE PHOSPHATASE.
PHOSPHOCYSTEINE INTERMEDIATE
SIMILARITY).
; 5112ADF290499139 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Noved. Usage by and for commercial (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            367
                                                                                                                                                                      ٠,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         dephosphorylates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        + H(2)0 =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (EC 3.1.3.16)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL outstation
                                                         (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a collaboration -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ---IleProVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          337
```

```
8
                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                 र्ठ
                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                           ঠ
                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                  ð
                                                      В
                                                                             S
                                                                                                                밁
                                                                                                                                  ঠ
                                                                                                                                                                      문
                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                          몽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-029-345A-108_COPY_538_2532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              No
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Scores:
                                                                                                                 267
                                                                                                                                           757
                                                                                                                                                                        247
                                                                                                                                                                                                                                                            637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ü
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              43
GlnPheGluSerGlnVal---
                                                                                                                                           ACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGA
                                                                                                                                                                      IleLysAspAlaGlyGlyArgValPheValHisCysGlnAlaGlyIleSerArgSerAla
                                                                                                                                                                                        GCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCC
                                                                                                                                                                                                                              ||||:::
AspAsnHisLysAlaAspIleSerSerTrpPheAsnGluAlaIleAspPheIleAspSer
                                                                                                                                                                                                                                                            GACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAA
                                                                                                                                                                                                                                                                                        AlaAsnCysProAsn---HisPheGluGlyHisTyrGlnTyrLysSerIleProValGlu
                                                                                                                                                                                                                                                                                                                    TATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAAT
                                                                                                                                                                                                                                                                                                                                                HisAlaSerArgLysAspMetLeuAspAlaLeuGlyIleThrAlaLeuIleAsnValSer
                                                                                                                                                                                                                                                                                                                                                                                                           LeuTyrAspGlnGlyGlyProValGluIleLeuSerPheLeuTyrLeuGlySerAlaTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProLeuSerThrSerValProAspSerAlaGluSerGlyCysSerSerCysSerThrPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AlaLeuCysArgGluAlaArgSerThrGlnValPheLeuGlnGlyGlyTyrGluAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAAAGCTCCCAAGATGTTGCCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGCGAAGGTTGCAA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTGGAATACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LeuArgAlaLeuLeuArgGluArgAlaAlaGlnCysLeuLeuLeuAspCysArgSerPhe
                           GACTATGAGAAGAAGATTAAGAACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAG
                                                      ThrileCysLeuAlaTyrLeuMetArgThrAsnArgValLysLeuAspGluAlaPheGlu
                                                                                                                                                                                                                                                                                                                                                                            GATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----TCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PheSerAlaSerCysProGluLeuCysSerLysGlnSerThrProMetGlyLeuSerLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAACTG-----GAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GluargSeralaalaLeuaspGlyalaLysargAspGlyThrLeualaLeualaAlaGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ArgArgAlaLysGlyAlaMetGlyLeuGluHisIleValProAsnThrGluLeu---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PheAlaPheAsnAlaGlyHisIleValGlySerValAsnValArgPheSerThrIleVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTGGTGGCTCTGCTGGAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTT
                                                                                 TTTGTGAAAGAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----ArgGlyArgLeuLeuAlaGlyAlaTyrHisAlaValValLeuLeuAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3.33e-19
423.00
46.05%
31.34%
11.70%
                                                                                                                                                                                                                                                                                                                                                                                                                                      - GGGCCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGA
                                                                                                                             =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (1-1995) x DUS1_RAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----CAGGACAAAGTGTTAATTACAGAGCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches:
Indels:
-LeuAlaProHisCysSer-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (1-367)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         367
115
54
148
50
                           936
                                                                                    876
                                                                                                                                           816
                                                                                                                                                                                                                                                            696
                                                                                                                                                                                                                                                                                                                                                                                                           187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    162
                                                      306
                                                                                                                                                                        266
                                                                                                                                                                                                    756
                                                                                                                                                                                                                                246
                                                                                                                                                                                                                                                                                         226
                                                                                                                                                                                                                                                                                                                                                 207
                                                                                                                                                                                                                                                                                                                                                                                                                                       516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              71
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                             RA Strausberg R.I., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschall S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Altschall S.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Staplecton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Staplecton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Villalon D.K., Muzny D.M., Scherran X.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Villalon D.K., Muzny D.M., Schergren E.J., Lu X., Gibbs R.A.,
Villalon D.K., Muzny D.M., Schergren E.J., Lu X., Gibbs R.A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Holter M., Schaman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
"Generation and initial analysis of more than 15,000 full-length
human and mouse cDNA sequences."

J. FUNCTION. Thal service of the Coll.

J. FUNCTION. The Coll. Sci. U.S.A. 99:1899-16903 (2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       P28562;
01-DEC-1992
01-FEB-1996
                                                                                                                                                                      -!- FUNCTION: Dual specificity phosphatase that kinase ERK2 on both Thr-183 and Tyr-185.
-!- CATALYTIC ACTIVITY: Protein tyrosine phosphate.
-!- CATALYTIC ACTIVITY: A phosphoprotein + H(2)C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-DEC-1992 (Rel. 24, Created)
01-FEB-1996 (Rel. 31, Last sequence update)
15-MAR-2004 (Rel. 43, Last annotation update)
Dual specificity protein phosphatase 1 (EC 3.1.3.48)
(MAP kinase phosphatase-1) (MKP-1) (Protein-tyrosine
CL100) (Dual specificity protein phosphatase hVH1).
DUSP1 OR PTPN10 OR MKP1 OR CL100 OR VH1.
                      This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Oxidative stress and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DUSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=22388257; PubMed=12477932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A. TISSUE=Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein-tyrosine phosphatase.";
Nature 359:644-647(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=93024952; PubMed=1406996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens (Human)
                                                             SIMILARITY: Belongs to the protein-tyrosine phosphatase Non-receptor class dual specificity subfamily. SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                INDUCTION: By oxidative stress and heat shock
  SWISS-PROT entry is copyright. It is produced through a collaboration sen the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGGCCCGTGCATCCCGCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ThrThrThrValPheAsnPheProValSer----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGCGAGACGCCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAA 1056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----AlaGluAlaGlySerProAlaMetAlaValLeuAspArgGlyThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Emslie E.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       heat shock induce a
                                                                                                                                                                             A phosphoprotein + H(2)O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Craniata; Vertebrata; Euteleostomi,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           367
                                                                                                                                                                                                                         phosphate +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  human gene encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hominidae;
                                                                                                                                                                                                                                                                  dephosphorylates MAP
                                                                                                                                                                             ø
                                                                                                                                                                                                                         H(2)0 =
                                                                                                                                                                           protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (E)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3.1.3.16)
                                                                                                                family
                                                                                                                                                                                                                         protein
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
Ó
                                                          Ş
                                                                                                В
                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                               á
                                  밁
                                                                                                                             Ş
                                                                                                                                                                 밁
                                                                                                                                                                                             á
                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                 뮹
                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-029-345A-108_COPY_538_2532 (1-1995) x DUS1_HUMAN (1-367)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Alignment Scores: Pred. No.: Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR008343; MAPK phosph.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001387; TYR phosphatase.
Pfam; PF00782; DSPc; 1.
Pfam; PF00581; Rhodanese; 1.
PFINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPc; 1.
SMART; SM00195; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce) or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
DOMAIN
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GO;
GO;
GO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HSSP; Q16828; 1MKP.
Genew; HGNC:3064; DUSP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; X68277; CAA48338.1; -.
EMBL; BC022463; AAH22463.1;
PIR; S29090; S29090.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS50303; TYR PHOSPHATASE 2; 1.
PROSITE; PS50056; TYR PHOSPHATASE DUAL;
PROSITE; PS50054; TYR PHOSPHATASE DUAL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30; GO:0004726; F:non-membrane spanning protein tyrosine phos. . GO:0006979; P:response to oxidative stress; TAS. InterPro; IPR000340; DS phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hydrolase;
     427
                                    133
                                                                   397
                                                                                                  113
                                                                                                                                  337
                                                                                                                                                                                                  283
                                                                                                                                                                                                                                                                                                                                  163
                                                                                                                                                                                                                                                                                                                                                                                                   103
                                                                                                                                                                                                                                                                  223
                                                                                                                                                                                                                                                                                                                                                                  ű
                                                                                                                                                                                                                                                                                                                                                                                                                                  μ
u
                                                                                                                                                                 93
                                                                                                                                                                                                                                   73
                                                                                                                                                                                                                                                                                                 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 43
   GTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATT--
                                                                                              AlaArgAlaAlaGlnValPhePheLeuLysGlyGlyTyrGluAlaPheSerAlaSerCys 132
                                                                                                                                                                                                  GTTGCCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTG-----GAG
                                                                                                                                                                                                                                 CATAAGGTTGACATTGCAGTCAGAAGGTTCTAGTTTACGATCAAAGCTCCCAAGAT
                                                                                                                                                                                                                                                                                                 ArgArgArgAlaLysGlyAlaMetGlyLeuGluHisIleValProAsnAlaGluLeuArg
                                                                                                                                                                                                                                                                                                                                  AAGCGAAGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAA
                                                                                                                                                                                                                                                                                                                                                                  PheAlaPheAsnAlaGlyHisIleAlaGlySerValAsnValArgPheSerThrIleVal
                                                                                                                                                                                                                                                                                                                                                                                                 GTGGAATACAATACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATG
                                                                                                                                                                                                                                                                                                                                                                                                                                  LeuArgAlaLeuLeuGlyGluArgAlaAlaGlnCysLeuLeuLeuAspCysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTGGTGGCTCTGCTGGAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTT
                                  ProGluLeuCysSerLysGlnSerThrProMetGlyLeuSerLeuProLeuSerThrSer
                                                                                                                               AAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTC
                                                                                                                                                                 LeuAspGlyAlaLysArgAspGlyThrLeuAlaLeuAlaAlaGlyAlaLeuCysArgGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AA ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cycle.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5.14e-19
420.00
46.69%
31.22%
11.62%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    137
367
258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  39297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYR_phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROTEIN-TYROSINE PHOSPHOCYSTEINE I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RHODANESE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11BD1D39A9FCD51F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INTERMEDIATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     =
::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        367
113
56
159
34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YB)
                                                                    TCCACTCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ions on its in no way r commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    έ.
                                     152
                                                                                                                                      396
                                                                                                                                                                                                                                     92
                                                                                                                                                                                                                                                                     282
                                                                                                                                                                                                                                                                                                    72
                                                                                                                                                                                                                                                                                                                                     222
                                                                                                                                                                                                                                                                                                                                                                      52
                                                                                                                                                                                                    336
                                                                                                                                                                                                                                                                                                                                                                                                                                     32
```

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                    Ś
                                                 밁
                                                                  5
                                                                                            뫄
                                                                                                                     Ş
                                                                                                                                                    닭
                                                                                                                                                                      Ş
                                                                                                                                                                                                    문
                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                      뮹
                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                       뫄
                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                            1006
                                                                                                                                                                                                                                                                                                                                                                                     652
                                                                                                                                                                                                                                                                                                                                                                                                                                        592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  153
360
                                                 340
                                                                                                    320
                                                                                                                                                                              892
                                                                                                                                                                                                                                                                                                          252
                                                                                                                                                                                                                                                                                                                                   712
                                                                                                                                                                                                                                                                                                                                                            232
                                                                                                                                                                                                                                                                                                                                                                                                             213
                                                                                                                                                                                                       292
                                                                                                                                                                                                                                                         272
                                                                                                                                                                                                                                                                                                                                                          ||||||
ValProAspSerAlaGluSerGlyCysSerSerCysSerThrProLeuTyrAspGlnGly
                                                                                                                                                                                                                                                                              GlyArgValPheValHisCysGlnAlaGlyIleSerArgSerAlaThrIleCysLeuAla
                                                                                                                                                                                                                                                                                                                           GGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCTATCGCC
                                                                                                                                                                                                                                                                                                                                                                                  AAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCCAAAAAGCCTCCAAT
                                                                                                                                                                                                                                                                                                                                                                                                            ---HisPheGluGlyHisTyrGlnTyrLysSerIleProValGluAspAsnHisLysAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                               AspMetLeuAspAlaLeuGlyIleThrAlaLeuIleAsnValSerAlaAsnCysProAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  {\tt AsnPheProValSerIleProValHisSerThrAsnSerAlaLeuSerTyrLeuGlnSer}
                                                                                                    {\tt GluAlaGlySerProAlaMetAlaValLeuAspArgGlyThrSerThrThrThrValPhe}
                                                                                                                           AAGCCAAATGAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACG-----
                                                                                                                                                       Val-----LeuAlaProHisCysSer-----
                                                                                                                                                                            ATTAAGAACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAG
                                                                                                                                                                                                       AGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAG
                                                                                                                                                                                                                                                      ||||:::|||:::
TyrLeuMetArgThrAsnArgValLysLeuAspGluAlapheGluPheValLysGlnArg
                                                                                                                                                                                                                                                                                                                                                                                                                                     CCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGGCCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAG
 Prolle 361
                         CCCGTG 1065
                                                                            -CCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGG
                                                                                                                                                         -----Ala
                                                                                                                                1005
                                                                                                                                                         319
                                                                                                                                                                                   951
                                                                                                                                                                                                           311
                                                                                                                                                                                                                                                                                                              271
                                                                                                                                                                                                                                                                                                                                        771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      192
                                                                                                                                                                                                                                    891
                                                                                                                                                                                                                                                             291
```

SO TITLE REPRESENTATION OF THE TERMS OF THE

Search completed: June 21, Job time: 42.9747 secs 2004, 12:34:52

```
Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                             -MODEL=frame+ n2p.model -DEV=xlp
-Q=/cgn2 1/USPTO_spool_p/US10029345/runat_21062004_122816_4193/app_query.fasta_1.3278
-DB=SPTREMBL_25 -QFMT=fastan -SUFFIX=rspt -MINMATCH=0.1 -LOOPCL=0 -LOODEXT=0
-UNITS=bits -START=1 -END=-1 -MATRIX=blosum62 -TRAUS=bluman40.cdi -LIST=45
-DOCALIGN=200 -THR_SCORE=pct -THR_MAX=100 -THR_MIN=0 -ALIGN=15 -MODE=LOCAL
-OUTFMT=pco -NORM=ext -HEAPSIZE=500 -MINLEN=0 -MAXLEN=200000000
-USER=US10029345_@CGN_1 1_168_@runat_21062004_122816_4193 -NCPU=6 -ICPU=3
-NO_MMAP -LARGEQUERY -NEG_SCORES=0 -WAIT -DSPBLOCK=100 -LONGLOG
-DEV_TIMEDUT=120 -WANN_TIMEOUT=30 -THREADS=1 -XGAPDP=10 -XGAPEXT=0.5 -FGAPDP=6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Run
                                 Result
                                                                                                                                                                                                                                                                                                                               Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Command line parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OM nucleic -
                                                                                                                                                                                                                                                                                                                                                     FGAPEXT-7 -YGAPOP-10 -YGAPEXT-0.5 -DELOP-6 -DELEXT-7
                       ŏ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      on:
                                                                              score g
                                                                                                      Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B B
                      Score
3399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          seq.
                                                                             No. is the number of results predicted by chance to have a greater than or equal to the score of the result being printed, s derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein search, using frame_plus_n2p model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Xgapop 10.0,
Ygapop 10.0,
Fgapop 6.0,
Delop 6.0,
                      Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-029-345A-108_COPY_538_2532
3615
                                  Query
                                                                                                                                                                                                             10:
                                                                                                                                                                                                                                                                                                                               SPTREMBL_25:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1017041 segs, 315518202 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      June 21,
94.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               atggcccatgagatgattgg.....tggaaatcattgaggtctcc 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Copyright
                                                                                                                                                                                                                                                                                                   sp_archea:*
sp_bacteria:*
                                                                                                                                                                                                                      sp_phage:*
                                                                                                                                                                                                                                  sp_organelle:*
                                                                                                                                                                                  sp_rodent:*
sp_virus:*
                                                                                                                           sp_archeap:*
                                                                                                                                     sp_bacteriap:*
                                                                                                                                                 sp_rvirus:*
                                                                                                                                                             sp_unclassified:*
                                                                                                                                                                          sp_vertebrate:*
                                                                                                                                                                                                         sp_plant:*
                                                                                                                                                                                                                                                         mammal: *
                                                                                                                                                                                                                                                                                            fungi:
                                                                                                                                                                                                                                                                     invertebrate: *
                                                                                                                                                                                                                                                                                 numan:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2004, 12:28:25; Search time 103.154 Seconds (without alignments)
665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Xgapext
Ygapext
Fgapext
Delext
                      H
Q96N49
                                                        SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             . . . . . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (without alignments) 12204.244 Million ce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2034082
Q96n49 homo sapien
                      Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cell updates/sec
 RESULT 1
                                                                                                                                                                                                                                                                     Q96N49
```

287	292.5	L	328	S S S	345	353	777	9.60	406	412	413	415	415.5	421	424	427.5	431	431.5	433.5	43	439.5	445	447	449	469	469	476	487.5		628.5	653	891	1114	1304	32	1455.5	261	954.	9	316	3379.5
7.9	3 & 5 L	8	•		• •			•	11.2		11.4	11.5	11.5	11.6	11.7	11.8	11.9	11.9	12.0		12.2	12.3	12.4			13.0	13.2	13.5	14.2		œ :	24.6	۰.		ς.	٥.	72.3	H	'n	87.5	ů.
1193	1046	177	476	476	303	411	411	2 4 5 6	1 5	436	\vdash	Φ	353	367	σ	7	σ	369	369	382	398	368	411	383	483	382	439	367	606	657	143	206	300	665	625	355	622	677	660	616	662
υū	n U	11	ហ	ਯ		υı		<u>,</u>	: :	11	11	13	13	11	11	13	13	13	ŭ	13	11				11	13	σ	13		U .	- 1	:		Н				11	11	4	4
QBIMU8 QBIMALL	044128	Q9CSL5	Q9VHV8	046122	09NSW1	09VVW5	OPERA	ON TALL	QBKLS9	Q99KC2	Q80ZN1	Q7ZVL8	042253	Q63683	Q64193	Q91663	Q803B2	Q90W58	Q91790	Q7T2L8	Q8BFV3	Q8NFJ0	Q13649	Q8UW48	Q8R3L3	Q7T2L9	Q8IG35	Q7SZF3	08ST18	08ST19	096082	08BZE4	09AG15	07TSZ9	888980	Q9AG16	Q99MG5	Q99MG6	Q920R2	Q8N5T1	QBIVTB .
Q8imu8 drosophila	_	ū	8 drosc	droso		drogophi	Ogsavi drogophila	משמים ל	a mus	aus	1 mus	brachyo	3 gallus	3 rattus	rattus s	Q91663 xenopus lae	brachyda	xenopus		brac	Bru	homo	homo sapien	8 fugu	Q8r3l3 mus musculu	Ψ	(1	w		caeno	homo	8bze4 mus	Bum	9 mus	powo	B nw		· Q99mg6 mus musculu	r2 mus	1 homo	в ћото

ALIGNMENTS

```
NA49

Q96N49

PRELIMINARY;

PRT;

665 AA.

Q96N49

O1-DEC-2001 (TrEMBLrel. 19, Last sequence update)

O1-DEC-2001 (TrEMBLrel. 19, Last sequence update)

O1-DEC-2001 (TrEMBLrel. 25, Last annotation update)

O1-OCT-2003 (TrEMBLrel. 25, Last annotation update)

Hypothetical protein FLJ31411.

Homo sapiens (Human).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

NCBI TaxID=9606;

[1]

Tashiro H., Yamazaki M., Watanabe K., Kumagai A., Itakura S.,

Fukuzumi Y., Fujimori Y., Komiyama M., Sugiyama T., Irie R.,

SEQUENCE FROM N.A.

Tashiro H., Wakamatsu A., Ishii S., Yamamoto J., Isono Y.,

Kawai-Hio Y., Saito K., Nishikawa T., Kimura K., Yamashita H.,

Matsuo K., Nakamura Y., Sekine M., Kikuchi H., Kanda K., Wagatsuma M.,

Murakawa K., Kanehori K., Takahashi-Fujii A., Oshima A., Sugiyama A.,

Yawashami B., Suzuki Y., Sugano S., Nagahari K., Masuho Y., Nagai K.,

"NEDO human cDNA sequencing project.";

Submitted (CCT-2001) to the EMEL/GenBank/DDBJ databases.
```

```
Alignment Scores:
Pred. No.:
Score:
Score:
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                 멍
                                                                                                                                                                                         Ś
                                                                                                                                                                                                    뫄
                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                          US-10-029-345A-108_COPY_538_2532 (1-1995) x Q96N49
                                                                                                                                                                                                                                                                                         R HSSP; Q16828; 1MKP.
R GO; GO:0016787; F:hydrolase activity; IEA.
R GO; GO:0017017; F:MAP Kinase phosphatase activity; IEA.
R GO; GO:0006707; P:protein amino acid dephosphorylation; IEA
InterPro; IPR000340; DS_phosphatase.
R InterPro; IPR000343; MAPK phosph.
JR InterPro; IPR001763; Rhodanese-like.
JR InterPro; IPR001763; Rhodanese-like.
JR InterPro; IPR001763; Rhodanese-like.
JR Pfam; PF00782; DSPc; 1.
DR Pfam; PF00781; Rhodanese; 1.
DR Pfam; PF00591; Rhodanese; 1.
DR SMART; SM00195; DSPc; 1.
DR SMART; SM00195; DSPc; 1.
DR SMART; SM00450; RHOD, 1.
DR RROSITE; PS00303; TYR_PHOSPHATASE_3; 1.
DR PROSITE; PS00303; TYR_PHOSPHATASE_1; 1.
DR PROSITE; PS0036; RHODANESE 3; 1.
DR PROSITE; PS0036; TYR_PHOSPHATASE_DUAL; 1.
SQ SEQUENCE 665 AA; 73058 MW; IEAEODFF08460DFF CRC64;
                                                                                                                                                                                                                                                                                                   601
                              181
                                      541
                                                   161
                                                              481
                                                                        141
                                                                                  421
                                                                                             121
                                                                                                       361
                                                                                                                  101
                                                                                                                            301
                                                                                                                                                 241
                                                                                                                                                                      181
                                                                                                                                                                                          121
                                                                                                                                      81
                                                                                                                                                            61
                                                                                                                                                                                41
                                                                                                                                                                                                     21
                                                                                                                                                                                                             61
   ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                       GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                               2.26e-252
3399.00
99.70%
99.55%
94.02%
                                                                                                                                                                                                                                                     Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                           (1-665)
                                                                                                                                                                                                                                                    0 0 2 1 6 6 5 5
    220
                                                                  160
                                                                             480
                                                                                                  420
                                                                                                             120
                                                                                                                      360
                                                                                                                                                      80
                                                                                                                                                                          60
                                                                                                                                                                                               40
                                                                                                                                                                                                                    20
              Ş
                                   8 B
                           문
                                                       S B S
                                                                                       뮍
                                                                                                  중 유
                                                                                                                      성 유
                                                                                                                                           Ś
                                                                                                                                                        В
                                                                                                                                                                Ś
                                                                                                                                                                           멍
                                                                                                                                                                                     Ş
                                                                                                                                                                                                  밁
                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                          뫄
                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                            DЬ
                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                 g
G
                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                        뮍
                1681
                                                          1561
                                     1621
                                                                               1501
                           541
                                                521
                                                                                                                                             1321
                                                                     501
                                                                                                              461
                                                                                                                                                                                                            1141
                                                                                                                                   441
                                                                                                                                                                  1261
                                                                                                                                                                                                                                 1081
                                                                                                                                                                                                                                                     1021
                                                                                                                                                       421
                                                                                                                                                                             401
                                                                                                                                                                                                  381
                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                           341
                                                                                                                                                                                                                                                                321
                                                                                                                                                                                                                                                                          961
                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                               901
261
                                         TCTCCACTGCATCGAAGTGGGAGGGTGGAGGACAATTACCACAGCCTGCTTTTCGGC 1560
                                                                                   GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                             AAGCTATGCCAGTTCTCCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                 TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                       CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACCATCATG
                                                                                                                                                                                                                                                                                                                                                                 1740
                                                    1620
                               1680
                                                                                              1500
                                                                                                        480
                                                                                                                    1440
                                                                                                                                       1380
                                                                                                                                                  440
                                                                                                                                                                                 1260
                                                                                                                                                                       420
                                                                                                                                                                                            400
                                                                                                                                                                                                      1200
                                                                                                                                                                                                                           1140
                                                                                                                                                                                                                                                                     1020
                                                                                                                                                                                                                 380
                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                1080
                                                                                                                                                                                                                                                          340
                                                                                                                                                                                                                                                                               320
                                                                                                                                                                                                                                                                                         960
                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                         280
                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                             260
                                                                                                                                                                                                                                                                                                                                                       780
```

밁 Ş 밁 Ś В 8 밁 Ś

밁 5 밁 Ş 밁 Ś

B & B ;	Query DB: US-10	Ali Pre Sco Per	SO	2222			2222	RRRR	3888	4444	RESULT QBIVTB	B 8	유 왕	용 왕	ያ ያ	B &
	tch: !9-345A	Alignment Scores: 7.09e-251 Length: 662 Pred. No.: 3.79.50 Matches: 660 Score: 3379.50 Matches: 660 Percent Similarity: 99.40% Conservative: 1 Best Local Similarity: 99.25% Mismatches: 1	PROSITE; PS50056; TYR_PHOSPHATASE_2; 1. PROSITE; PS50054; TYR_PHOSPHATASE_DUAL; 1. SEQUENCE 662 AA; 72818 MW; 350534EF0652B98F CRC64;	SMART; SMUULYS; USFC; 1. SMART; SMUULYS; USFC; 1. PROSITE; PSS0206; RHODDANESE 3; 1. PROSITE; PS00383; TYR_PHOSPHATASE_1; 1.	InterPro; IPR00038/; TYK_DNOSDNACASE. Pfam; PP00782; DSPo; 1. Pfam; PP00581; Rhodanese; 1. PRINTS; PR01764; MAPKPHPHTASE.	InterPro; IPR001343; MAPK phospha. InterPro; IPR001343; MAPK phosph. InterPro; IPR001763; Rhodanese-like.	submitted (DEC-2002) to the EMBL/GenBank/DDBJ databases. R EMBL; BC042101; AAH42101.1; R GO; GO:0017017; F:MAP kinase phosphatase activity; IEA. R GO; GO:0006470. B:MAP kinase phosphatase activity; IEA.	[1] - 18X10=9000; [1] - SEQUENCE FROM N.A. TISSUB=Duodenum;	domo aapiens (Human). Sukaryota; Metazoa; Chordata; Craniata; Hammalia; Eutheria; Primates; Catarrhini	01-MAR-2003 (TrEMBLrel. 23, Created) 01-MAR-2003 (TrEMBLrel. 23, Last sequence update) 01-OCT-2003 (TrEMBLrel. 25, Last annotation update) Girilar to dual secrificity phospharase 16	ULT 2 VT8 QBIVTB PRELIMINARY; PRT; 662 AA.	1981 ATCATTGAGGTCTCC 1995 661 IleIleGluValSer 665	1921 AGGTCACGGGAAAGACCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 1980 	1861 AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAAC 1920 	1801 CAGAAGCCAAGTGACAGAGCTGACTGACGCGGCGGGGGGGTGGAAGAGAGAG	1741 GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG 1800 581 AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg 600
Q D Q D D D D D D D D D D D D D D D D D	& B &	ط	D Q	Db Qy	Qy Db	P Q	g Qy	B 8	B 8	D Qy	Db Qy	Qy db	D Q	D Q	D Qy	Db Qy
359ServalproservalGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu 377 1141 AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC 120	1021 TGTGCCGACTTCTGCTACCTCACAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG	961 GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC 	901 CAGACTGGAGCATCAGGGCCAAAGAGCCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT 	841 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC	781 AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAAA	721 CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG	661 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTT 	601 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG	541 CAGCAGAATGGGATTGGTTATATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT	481 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA	421 ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTTGCCAACATTGGGCCAACC	361 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAAATCC	301 GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG	241 TGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTGCCAAGATGTTGCCTCTCTCT	181 GACAAAGTGTTAATTACAGAGGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT	121 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG

```
Q8N5T1 PRELIMINARY; PRT; 616 AA.

Q8N5T1;
Q8N5
                                                                                                                                                                                                                                                                                           AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGGCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGGAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL/GenBank/DDBJ
                                                                                             Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                update)
                       databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1800
                                                                                                                                                                                                                                                                                                                                                                                           617
                                                                                                                                                                                                                                                                                                                                                                                                                                           597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        417
                                 δ
                                                               밁
                                                                               Ş
                                                                                                     문
                                                                                                                                δ
                                                                                                                                                      유왕
                                                                                                                                                                                                       음 성 음
                                                                                                                                                                                                                                                                               8 B
                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alignment Scores:
Pred. No.:
Score:
Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best I
Query
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-029-345A-108_COPY_538_2532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R GO; GO:0017017; F:MAP kinase phosphatase activity; IEA.
GO; GO:0006470; P:protein amino acid dephosphorylation; IEA
InterPro; IPR000340; DS phosphatase.
R InterPro; IPR000343; TYR phosph.
Pfam; PF00782; DSPc; 1.
Pfam; PF00782; DSPc; 1.
R PRINTS; PR01764; MAPKPHPHTASE.
R SMART; SM00195; DSPc; 1.
R PROSITE; PS00383; TYR PHOSPHATASE 1; 1.
R PROSITE; PS00383; TYR PHOSPHATASE 2; 1.
R PROSITE; PS0036; TYR PHOSPHATASE DUAL; 1.
R PROSITE; PS50054; TYR PHOSPHATASE DUAL; 1.
NON_TER 1
SEQUENCE 616 AA; 67636 MW; 2CB0B14482F2AD72 CRC64;
              221
                                                              201
                                                                                                             181
                                                                                                                                                              161
                                                                                                                                                                                                                                      568
                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                            101
                                                                                                                                                                                                                                                                                                                                    448
                                                                                                                                                                                                                                                                                                                                                                                     388
                                                                                                                                                                                                                                                                                                                                                                                                                                   328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   148
                                                                                                                                                                                                                                                                                                                                                            81
                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                           41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21
AATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTG
                                                                                                                                                                                                                                              2.96e-234
3163.00
99.84%
99.51%
87.50%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (1-1995) \times Q8N5T1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (1-616)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        616
613
2
1
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IEA
                         867
                                                                          807
                                                220
                                                                                                200
                                                                                                                        747
                                                                                                                                                180
                                                                                                                                                                        687
                                                                                                                                                                                                 160
                                                                                                                                                                                                                                                140
                                                                                                                                                                                                                         627
                                                                                                                                                                                                                                                                        567
                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                        507
                                                                                                                                                                                                                                                                                                                                                 100
                                                                                                                                                                                                                                                                                                                                                                         447
                                                                                                                                                                                                                                                                                                                                                                                                 80
                                                                                                                                                                                                                                                                                                                                                                                                                        387
                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20
```

RESULT QUEST. QU

SEQUENCE FROM N.A.
TISSUE=Brain, and Lung;
Strausberg R.;
Strausberg R.;
Submitted (JUN-2002) to the E
EMBL; BC031643; AAH31643.1; -

밁 δ 닭

1981

1 ATCATTGAGGTCTCC:

1995 662

w

S B S

618

1921

638

밁 Ś 뮍 Ś

598

1801

578

1861

밁 Ş 밁

558

1681

1621

1561

498

1441

1381

438

478

장 유

Ś 닭

1261

밁

```
1588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      988
                                           ACCCCTTCCCTGACCAGCAGCTGGTATTTTGCCACAGAGTCCTCACACTTCTACTCTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCACTCGGATATCTTGGCCCCCCCAGACCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTATCTCCCACTGCATCGAAGTGGGAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAGCTGCAGACCGCCAGGCCTTCAGACAGCCAGAGCAAGCGATTGCATTCGGTCAGAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAACTATCGGAGCAGACTCCCGAAACCAGTCCTGATAAGGAGGAAGCCAGCATCCCCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TyrLysProSerThrThrLeuAspGlyThrAsnLysLeuCysGlnPheSerProValGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TACAAACCTTCCACTACTCTGGATGGGACCAACAAGCTATGCCAGTTCTCCCCTGTTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCAGCCAGCATGGCAGCATCCTTACATGGCTTCTCCTCATCAGAAGATGCTTTGGAATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGGAAGACAGCAATAAGCTCAAGCGTTCCTTCTCTGGATATCAAATCAGTTTCATAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAGTGGGCTGCACCTGTCCGCAGACAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGACAGAAAAGCGAGACGCCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTCAGAGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAAATCATTGAGGTCTCC
                                                                                                                                                                    CGGCGGAGCTGGCATGAAGAGAGCCCCTTTGAAAAGCAGTTTAAACGCAGAAGCTGCCAA
                                                                                                                                                                                                                                                                                        TGCGGAGACCAAGTCTATTCTGTGCGCAGGCGGCAGAAGCCAAGTGACAGAGCTGACTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                      ThrProSerLeuThrSerSerTrpTyrPheAlaThrGluSerSerHisPheTyrSerAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LysSerAlaGlyLeuGlyLeuLysGlyTrpHisSerAspIleLeuAlaProGlnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LysLeuGlnThrAlaArgProSerAspSerGlnSerLysArgLeuHisSerValArgThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerAlaSerMetAlaAlaSerLeuHisGlyPheSerSerGluAspAlaLeuGluTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LeuLeuG1uAspSerProLeuValG1nAlaLeuSerG1yLeuHisLeuSerAlaAspArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GlyGlnLysSerGluThrProLeuSerProProCysAlaAspSerAlaThrSerGluAla
                                                                                                                                                                                                                                                                                                                                      SerAlaIleTyrGlyGlySerAlaSerTyrSerAlaTyrSerCysSerGlnLeuProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LeuGluAspSerAsnLysLeuLysArgSerPheSerLeuAspIleLysSerValSerTyr
                                                                                                                                        ArgArgSerTrpHisGluSerProPheGluLysGlnPheLysArgArgSerCysGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1407
                                                                                             1947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1047
                                                600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      987
                                                                                                                                             580
                                                                                                                                                                                                                                             560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q RESULT IN A COLOR OF THE PROPERTY OF THE PRO
                      밁
                                                       δ
                                                                                                                 밁
                                                                                                                                                     S
                                                                                                                                                                                                            片
                                                                                                                                                                                                                                                       á
                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q920R2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                      181
                                                                                                                                                                       121
                                                                                                                      41
                         61
                                                                                                                                                                                                                  21
                                                                                                                                                                                                                                                                  13
```

S 밁 ક В ð

음 성 음

5 В ક 문

461

5 닭 5 문 δ

60 180 40 120 20

용 ર્ 밁 S 밁 ક

밁

401

5

밁

유 성 밁 δ 밁 ş 밁 ð

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-029-345A-108_COPY_538_2532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR000340; DS_phosphatase.
InterPro; IPR000343; MAPK_phosph.
InterPro; IPR000343; MAPK_phosph.
InterPro; IPR000387; TYR_phosphatase.
InterPro; IPR000387; TYR_phosphatase.
InterPro; IPR000387; TYR_phosphatase.
InterPro; IPR000387; TYR_phosphatase.
InterPro; PR000581; Rhodanese; 1.
InterPro; PR01764; MAPKLPHPHTASE.
IPR01764; MAPKLPHPHTASE.
IPR01764; SMART; SM00450; RHODANISE 3; 1.
IPROSITE; PS00066; RHODANISE 3; 1.
IPROSITE; PS00086; TYR_PHOSPHATASE 2; 1.
IPROSITE; PS00086; TYR_PHOSPHATASE_DUAL; 1.
IPROSITE; PS00086; TYR_PHOSPHATASE_DUA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.

TISSUB-Cerebellum;

MEDLINE-21486429; PubMed-11489891;

MEDLINE-21486429; PubMed-11489891;

MASUDA K., Shima H., Watanabe M., Kikuchi K.

"MKP-7, a Novel Mitogen-activated Protein Ki
Functions as a Shuttle Protein.";

J. Biol. Chem. 276:39002-99011(2001).

EMBL; AB052157; BAB477240.1; -.

EMBL; AB052157; BAB477240.1; -.

HSSP; Q16828; IMKP.

MGD; MGI:1917936; Dusp16.

GO; GO:0005737; C:cytoplasm; IDA.

GO; GO:0005634; C:nucleus; IDA.

GO; GO:0005635; F:protein binding; IPI.

GO; GO:000515; F:protein binding; IPI.

GO; GO:000518; P:inactivation of MAPK; IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01_DEC-2001 (TrEMBLrel. 19, C
01-DEC-2001 (TrEMBLrel. 19, L
01-OCT-2003 (TrEMBLrel. 25, I
MAP kinase phosphatase-7.
DUSP16 OR 3830417M17RIK OR MK
Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                             GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGGCCCATGAGATTGGTTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7.82e-228
3079.50
94.29%
90.08%
85.19%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (1-1995) x Q920R2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB609FCDAD4AA309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (1-660)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   560
599
28
33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Phosphatase,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         616
```

```
1201
                                                       1141
                      1261
                                                                       1081
                                               377
                                                                                       1021
                                                               358
                                                                                341
                                                                                                321
                                                                                                        961
                                                                                                                301
                                                                                                                        901
                                                                                                                                281
                                                                                                                                        841
                                                                                                                                                 261
                                                                                                                                                         781
                                                                                                                                                                         721
                                                                                                                                                                                         661
                                                                                                                                                                                                  201
                                                                                                                                                                                                         601
                                                                                                                                                                                                                  181
                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                  161
                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                  141
                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                          361
        TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC 1320
                                                                                                                                                                                                                                                                                   101
                                                                                                                                                                                                                                                                                           301
AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT 1380
                         81
                                                                                TGTGCCGACTCTGCTACCTCAGAGGGGAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                          CysAlaAsnSer---
                                                                                                                          ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC 900
                                                                                                                                           CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                            ileProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                  ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                             ArgileLeuproAsnLeufyrLeuGlyCysGlnArgAspValLeuAsnLysAspLeuwet
                                                                                                                                                                                                                                                              416
                                  1260
                                          396
                                                  1200
                                                           376
                                                                  1140
                                                                                   1080
                                                                                                   1020
                                                                           357
                                                                                                                                            280
                                                                                                                                                    840
                                                                                                                                                            260
                                                                                                                                                                     780
                                                                                                                                                                             240
                                                                                                                                                                                            220
                                                                                                                                                                                     720
                                                                                                                                                                                                                              180
                                                                                                                                                                                                     660
                                                                                                                                                                                                             200
                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                              160
                                                                                                                                                                                                                                                               140
                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                               100
                                                                                                                                                                                                                                                                                                       300
밁
                                                                                                                    Ş
                                                                                                                              유 &
                                                                                                                                               밁
                                                                                                                                                    Ś
                                                                                                                                                               뭐
                                                                                                                                                                     Ś
                                                                                                                                                                               В
                                                                                                                                                                                     Ş
                                                                                                                                                                                               밁
                                                                                                                                                                                                      δ
                                                                                                                                                                                                              Д
                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                뮍
                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                  밁
                                            SEQUENCE FROM
                                                                                                                    1981
                                                                                                                                      1921
                                                                                                                                                      1861
                                                                                                                                                                      1801
                                                                                                                                                                                       1741
                                                                                                              656
                                                                                                                              636
                                                                                                                                              616
                                                                                                                                                                                                       1681
                                                                                                                                                               596
                                                                                                                                                                               576
                                                                                                                                                                                                                       1621
                                                                                                                                                                                               556
                                                                                                                                                                                                                                       1561
                                                                                                                                                                                                                                                        1501
                                                                                                                                                                                                               536
                                                                                                                                                                                                                                516
                                                                                                                                                                                                                                                496
                                                                                                                                                                                                                                                                                                 436
```

청 음 성

á 밁 Ş 문 Ş 밁 δ 밁 5 밁 S 밁 Ş 밁 S 밁 Ş 밁 Ş 멍 5 В 성 음

```
"A Novel MKP is an Important Negative Re Activation in Macrophages.";
MO1. Cell. Biol. 20:6999-7009(2001).
EMBL; AF345951; AAK35052.1;
HSSP; Q16628; IMKP.
MGD; MGI:1917936; Dusp16.
GO; GO:0005737; C:cytoplasm; IDA.
GO; GO:0005634; C:nucleus; IDA.
                                                                                                                                             Q99MG6 PRELIMINARY; P
Q99MG6;
Q99MG6;
O1-JUN-2001 (TrEMBLrel. 17, Cre
01-JUN-2001 (TrEMBLrel. 25, Las
01-OCT-2003 (TrEMBLrel. 25, Las
Map kinase phosphatase M Al iso
Mus musculus (Mouse).
Eukaryota, Metazoa; Chordata; C:
Mammalia; Eutheria; Rodentia; Sc
NCBI TaxID=10090;
                                                                                                STRAIN=BALB/c;
Matsuguchi T., Musikacharoen
                                                                                                                                                                                                                                                                                                   ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                  AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 1980
                                                                                                                                                                                                                                                                                                                                                                                GinLysProThrAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCGGATATCTTGGCCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC 1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTTTCCACCAGCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGCGGCACCGCCCAGAGGTCCCCTTTTA 1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ValThrhrgLeuHisSerValArgThrGlySerSerGlySerThrGlnArgProPhePhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N.A.
                                                                                                                                                                                                    isoform.
                                                                                                                                                                                                                                   Created)
                                                                                                                                                                                                            Last sequence up
                                                                                                T., Johnson T.R.,
                                                                                                                                                    Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                         677
                                                                             Regulator
                                                                                                                                                                                                            update)
on update)
                                                                                                                                                                                                                                                       A
                                                                                                Kraft A.S.
                                                                             0£
                                                                          LPS-mediated
                                                                                                                                                                                                                                                                                                                                         655
                                                                                                                                                                                                                                                                                                                                                                                   635
                                                                                                                                                                                                                                                                                                                                                                                                                                                   1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1740
                                                                                                                                                                                                                                                                                                                                                                                                                            615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  455
```

```
Alignment !
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                        Best I
Query
DB:
                                                                                         ち 음 ち
                                                                                                                                                                                      S
                                                                                                                                                                                                        유 &
                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                    ঠ
                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
Query Match:
                           중 음 중 음
                                                                                                                                        밁
                                                                                                                                                       5
                                                                                                                                                                           밁
                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                     ঠ
                                                                                                                                                                                                                                                                                                                      ঠ
                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-108_COPY_538_2532
                                                                                                                                                                                                                                                                                                                                                                                                                                                    GO; GO:0005515; F:protein binding; IPI.
GO; GO:000188; P:inactivation of MAPK; ID
InterPro; IPR000340; DS phosphatase.
InterPro; IPR008343; MAPK phosph.
InterPro; IPR008343; MAPK phosphatase.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001387; TYR phosphatase.
Pfam; PP00782; DSPC; 1.
Pfam; PP00782; DSPC; 1.
PFRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPC; 1.
SMART; SM00195; DSPC; 1.
SMART; SM00195; DSPC; 1.
PROSITE; PS00138; TYR PHOSPHATASE 1; 1.
PROSITE; PS00138; TYR PHOSPHATASE 2; 1.
PROSITE; PS00138; TYR PHOSPHATASE 2; 1.
PROSITE; PS00138; TYR PHOSPHATASE DUAL; 1.
PROSITE; PS00138; TYR PHOSPHATASE DUAL; 1.
PROSITE; PS00138; TYR PHOSPHATASE DUAL; 1.
PROSITE; PS50056; TYR PHOSPHATASE DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                       Scores:
 661
                                                                               161
                                                                                              481
                                                                                                             141
                                                                                                                             421
                                                                                                                                             121
                                                                                                                                                            361
                                                                                                                                                                            101
                                                                                                                                                                                           301
                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                           181
                201
                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                           81
                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                           41
                                                                                                                                                                                                                                                                                                          21
               ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                              GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                          MetAlaHisGluMetIleGlyThrGlnIleValThrGluSerLeuValAlaLeuLeuGlu
 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                             ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                             ACTOTAGTOCOTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                            AspCysPheLeuThrValLeuLeuGlyLysLeuGluArgSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                        ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F:protein binding; IPI.
P:inactivation of MAPK; IDA.
10340; DS_phosphatase.
18343; MAPK_phosph.
1763; Rhodanese-like.
                                                                                                                                                                                                                                                                                                                                                                                        3.15e-218
2954.50
2954.50
92.19%
86.94%
81.73%
                                                                                                                                                                                                                                                                                                                                                                       (1-1995) x Q99MG6
                                                                                                                                                                                                                                                                                                                                                                                                                                                       8B6D5B7096CEC2FC
                                                                                                                                                                                                                                                                                                                                                                                       Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                        (1-677)
                                                                                                                                                                                                                                                                                                                                                                                                                                                        CRC64;
                                660
                                                                               180
                                                                                               540
                                                                                                                             480
                                                                                                                                             140
                                                                                                                                                             420
                                                                                                                                                                            120
                                                                                                                                                                                            360
                                                                                                                                                                                                            100
                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                            80
                                                                                                                                                                                                                                                                                                         40
                                                                                                                                                                                                                                                                                                                                         20
                220
                                                                                                              160
                                                                                                                                                                                                                                                                           60
                                                                                                                    음 성
                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                              뮹
                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뫄
        δ
                       뭐
                                   δ
                                                       유
                                                                                  유성
                                                                                                                                               밁
                                                                                                                                                              중 유
                                                                                                                                                                                               Ś
                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                 유
                                                                                                                                                                                                                                                                                                             유 성
                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                            유 성
                                                                                                                                                                                                                                                                                                                                                                                                               유
                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
          1740
                                                                       1620
                                                                                                                                     1501
                                                                                                                                                                                                    1381
                                                                                                                                                                                                                                                                                                                                                                 1081
                                                                                                                                                                    1441
                                                                                                                                                                                                                                   1321
                                                                                                                                                                                                                                                                                                 1201
                                                                                                      1560
                                                                                                                                                                                                                                                                  1261
                                                                                                                                                                                                                                                                                                                 377
                                                                                       516
                                                                                                                      496
                                                                                                                                                                                                                                                  417
                                                                                                                                                                                                                                                                                  397
                                                                                                                                                                                                                                                                                                                                                 358
                                                                                                                                                                                                                                                                                                                                                                                341
                                                                                                                                                                                                                                                                                                                                                                                                                321
                                                                                                                                                                                                                                                                                                                                                                                                                               961
                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             221
                                                                                                                                                                                                                  TGCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCG
                       TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                 CCCAGCGTGCCAGCGTGCAGCCGTTGGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                       TGTGCCGACTCTGCTACCTCAGAGGCAGGAGGACAAAGGCCCGTGCATCCCGGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                       GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ProPheHisGlnProAlaThrProHisGlnValCys-ArgAlaTrpLeuLysGlyTrpHi
                                                                                                                                                                                                                                                 ---SerSerGluGluAlaLeuAspTyrCysLysProSerAlaThrLeuAspGlyThrAsn
                                                                                                                                                                                                                                                                                                                AGTGGGCTGCACCTGTCCGCAGACAGACAGACAGAGACAATAAGCCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                               GluProValProAlaAlaSerGluGlyGlyTrpLysSerAlaLeuSerLeuSerProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IleSerProAsnPheAsnPheMetGlyGlnLeuMetAspTyrGluLysThrIleAsnAsn
                                                                                                      CCTTTCCACCAGCCAGCACCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCA
                                                                                                                                                                                                                                                                                                                                                                                 CysAlaAsnSer--
                                                                                                                                                                                                                                                                                                                                                 -SerValProSerLeuGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                 1619
                                                                        1679
                                                                                                                                                                     1500
                                                                                                                                                                                                    1440
                                                                                                                                                                                                                                                                                                                                                                                                 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                1020
                         575
                                                         588
                                                                                       535
                                                                                                                                      1559
                                                                                                                                                                                                                     455
                                                                                                                                                                                                                                    1380
                                                                                                                                                                                                                                                    435
                                                                                                                                                                                                                                                                    1320
                                                                                                                                                                                                                                                                                   416
                                                                                                                                                                                                                                                                                                   1260
                                                                                                                                                                                                                                                                                                                   396
                                                                                                                                                                                                                                                                                                                                  1200
                                                                                                                                                                                                                                                                                                                                                  376
                                                                                                                                                                                                                                                                                                                                                                                                                                                               960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               280
```

밁

575

```
Ś
                                                                                                                                                                                                          RESULT
JOPOMOSE
AC Q99

                                                        US-10-029-345A-108_COPY_538_2532 (1-1995) x Q99MG5
                                                                                                             Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                      Alignment Scores: Pred. No.:
                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                   Activation in Macrophages.,
Mol. Cell. Biol. 20:6999-7009 (2001).
RWBL; AR945952; AAK35053.1; -.
HSSP; Q16828; IMKP.
MGD; MGI:1917936; Dusp16.
GO; GO:0005737; C:cyroplasm; IDA.
GO; GO:0005734; C:nucleus; IDA.
GO; GO:000188; P:protein binding; IPI.
GO; GO:000188; P:inactivation of MAPK; IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  유성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                    No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Map kinase phosphatase-M A2 isoform.
DUSP16 OR 3830417M17RIK.
Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalla; Eutheria; Rodentia; Sciurognathi; Muridae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A. STRAIN=BALB/c;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matsuguchi T., Musikacharoen
Yoshikai Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q99MG5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel MKP is an Important Negative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              615
                         ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AATCATTGAGGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rgSerSerArgSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      hrGlyProGlyArgSerTrpAlaArgTrpAlaAlaSerProAlaSerProAlaAlaTrpA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ysSerSerLeuAsnAlaGluAlaAlaLysTrpAsnLeuGluArgAlaLeuCysArgArgT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAA 1919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                          5.22e-192
2613.00
83.93%
78.68%
72.28%
                                                                                                                                                                                                    68672 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Τ.,
                                                                                                                                                                                               6C0CA4E6E9099B98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                   Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Johnson T.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Regulator
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                         (1-622)
                                                                                   524
35
45
45
                                                                                                                                                                                               CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kraft
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          of LPS-mediated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JNK
                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     595
                                Ş
                                                            밁
                                                                                 δ
                                                                                                               Вb
                                                                                                                                        S
                                                                                                                                                                 B
                                                                                                                                                                                              Ş
                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
1081 CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                   1021
                                                           286
                                                                                                               266
                                                                                                                                          961
                                                                                                                                                                    246
                                                                                                                                                                                                                                                   841
                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                     186
                                                                                                                                                                                                                                                                                                                                                                                          166
                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                              146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301 GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                         81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                             GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                 GinThrdiyMetSerdjyProLysSerLysLeuLysLeuLeuHisLeuAspLysbroSer 265
                                                                                                                                                                 CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT 960
                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       leSerProAsnPheAsnPheMetGlyGlnLeumetAspTyrGluLysThrileAsnAsn
                                                                                                                                                                                                                        ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21
                                                                                                                                                                                                                                                                                                                    TeulleHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                     CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                        ProTrpLeuAspLysSerValAspPhelleGiuLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                         CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                             ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                              GlnGinAsnGlyileGlyTyrVaiLeuAsnAlaSerAsnThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeuAla-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----AspLeuMet 125
                                           302
                                                                                                                           1020
                1140
                                                                                                285
                                                                                                                                                                                                                                    900
                                                                                                                                                                                                          245
                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                225
                                                                                                                                                                                                                                                                                                                    205
                                                                                                                                                                                                                                                                                                                                               780
                                                                                                                                                                                                                                                                                                                                                                          185
                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                              165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                122
```

480

420

122

360

80 240 60

40 120

S

Ş

밁

뭐

```
RESULT
Q9AG16
ID Q9
AC Q9
DT 01
OS Mu
OS Mu
Q9AG16 PRELIMINARY; PRT; 355 AA.
Q9AG16;
Q1-JUN-2001 (TrEMBLrel. 17, Created)
Q1-JUN-2001 (TrEMBLrel. 17, Last sequence update)
Q1-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Map kinase phosphatase-M B1 isoform.
DUSP16 OR 3830417M17RIK.
Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrat.
                                                                                                                                                                                                                                                                                                       1800
                                                                                                                                                                                                                                                                                                                                                    1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1201
                                                                                                                                                                                                                                                         1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1261
                                                                                                                                                                                                                                                                                                                                                                                                  1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1441
                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                               520
                                                                                                                                                                                                                                                                                                                                                                            500
                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 303
                                                                                                                                                      AATCATTGAGGTCT 1993
                                                                                                                                                                               ysSerSerLeuAsnAlaGluAlaAlaLysTrpAsnLeuGluArgAlaLeuCysArgArgT
                                                                                                                                                                                                                                                 TGCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCG
                                                                                                                                                                                                                                                                                                                                                                       CACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                    CTCGGATATCTTGGCCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrAsnPheLeuPheGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ValThrArgLeuHisSerValArgThrGlySerSerGlySerThrGlnArgProPhePhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGCAAGCGATTGCATTCGGTCAGAAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AspLysGluGluAlaHisIleProLysGlnProGlnProProArgProSerGluSerGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GATAAGGAGGAAGCCAGCATCCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                            CAGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGA
                                                                                                                                                                                                                                                                                                                              rAlaTyrSerCysGlyGlnLeuProThrCysSerAspGlnIleTyrSerValArgArgAr
                                                                                                                                                                                                                                                                                                                                                                                                                         sSerAspIleLeuAlaProGlnSerSerAlaProSerLeuThrSerSerTrpTyrPheAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ---SerValProSerLeuGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     604
   Vertebrata; Euteleostomi;
                                               update)
                                                                                                                                                                                                             1979
                                                                                                                                                                                                                                                          1919
                                                                                                                                                                                                                                                                                                        1859
                                                                                                                                                                                                                                                                                                                                                      1799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1260
                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                                                                                1679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1200
                                                                                                                                                                                                                                    580
                                                                                                                                                                                                                                                                                 560
                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                             520
                                                                                                                                                                                                                                                                                                                                                                                                                          500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  321
             S
                                    밁
                                                      5
                                                                                 뮍
                                                                                                5
                                                                                                                             F
                                                                                                                                                  Ş
                                                                                                                                                                                              δ
                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                  片
                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뭐
                                                                                                                                                                                                                                                                                                                                                                US-10-029-345A-108_COPY_538_2532 (1-1995) x Q9AG16
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Activation in Macrophages ";

Mol. Cell. Biol. 20:6999-7009(2001).

EMBL; AF345953; AAK35054.1; -.

HSSP; Q16828; IMKP.

G0; G0:0005737; C:cytoplasm; IDA.

G0; G0:0005634; C:nucleus; IDA.

G0; G0:0005615; F:protein binding; IPI.

G0; G0:0005163; P:protein binding; IPI.

G0; G0:0005163; P:protein binding; IPI.

G0; G0:000188; P:inactivation of MAPK; ID

InterPro; IPR000340; DS_phosphatase.

InterPro; IPR001763; Rhodanese-like.

InterPro; IPR001763; Rhodanese-like.

InterPro; IPR001763; Rhodanese: 1.

pfam; PF00782; DSPc; I.

pfam; PF00782; DSPc; I.

pfam; PF00782; DSPc; I.

PROSITE; PS00183; TYR_PHOSPHATASE.

SMART; SM00195; DSPc; I.

SMART; SM00195; DSPc; I.

PROSITE; PS00383; TYR_PHOSPHATASE 1; 1.

PROSITE; PS00383; TYR_PHOSPHATASE 2; 1.

PROSITE; PS00384; TYR_PHOSPHATASE_DUAL; 1.

PROSITE; PS00364; TYR_PHOSPHATASE_DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matsuguchi T., Musikacharoen
Yoshikai Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN=BALB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=10090
                                                                                                                                                                                                                                                                                                                                                                                                                                                No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Scores:
                                                           361
                                                                                  101
                                                                                                      301
               421
                                    121
                                                                                                                                                    241
                                                                                                                                                                                                 181
                                                                                                                                                                                                                                               121
                                                                                                                             81
                                                                                                                                                                           61
                                                                                                                                                                                                                          41
                                                                                                                                                                                                                                                                     21
                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                   ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGAA
                                                                                                                                                                         MKP is an Important Negative
                                 ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                 AspCysPheLeuThrValLeuLeuGlyLysLeuGluArgSerPheAsnSerValHisLeu
                                                                                                                             CysAsnGlnLysValValTyrAspGlnSerSerGlnAspValGlySerLeuSerSer
                                                                                                                                        GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eutheria; Rodentia; Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kinase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N.A.
                                                                                                                                                                                                                                                                                                                                                                                       3.58e-103
1455.50
49.02%
47.22%
40.26%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   39502 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Η.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D52C29AE215CA285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Johnson T.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                    Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                         Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Regulator of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Muridae;
                                                                                                                                                                                                                                                                                                                                                                  (1-355)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CRC64;
                                                                                                                                                                                                                                                                                                                                                                                         LPS-mediated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus.
```

밁 ð 밁

480 140 420 120 360 100 300 80 240 60 180 40 120 20 60

밁 Ś 밁 S Ś

В

ક

밁

ঠ В ð В 8

밁

뫄 S 밁 ક 문 श्च 밁

141 ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr 160

271 271	271				CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGAGACGCCCCTCAGTCCACCC	241 LeulleHisCysLeuAlaGlyILeSerArcTCCGCTCCGCCACCATCGCTATCGCCTACATCATG 780 241 LeulleHisCysLeuAlaGlyILeSerArgSerAlaThrILeAlaILeAlaTyrIleMet 260 781 AAGAGGATGGACATGTCTTTAGATGAAAGCTTACAGATTTTTGTGAAAGAAA		
Pred, Mo.: 3.13e-93 Length: 625 Score: 1327.00 Matches: 314 Percent Similarity: 58.54% Conservative: 94	T; SM00195; D: T; SM00450; R: TTE; PS50206; R: TTE; PS00383; TTE; PS50056; TTE; PS50054; NCE 625 AA;	InterPro; IPRO00 InterPro; IPRO00 InterPro; IPRO00 InterPro; IPRO00 InterPro; IPRO00 InterPro; IPRO00 InterPro; IPRO0782; IPRO1784; PRO1784; PRO1784; PRO1217;	SEQUENCE FROM N.A. TISSUB-Brain, and Astrocytoma, Strausberg R.; Strausberg G.; Submitted (JAN-2003) to the EN EMBL; BC045110; AAH45110.1; GO; GO:0017017; F:MAP kinase p	QB6SSB; PRELIMINARY; PRT; 625 QB6SSB; O1-JUN-2003 (TrEMBLrel. 24, Created) O1-JUN-2003 (TrEMBLrel. 24, Last sequence O1-CCT-2003 (TrEMBLrel. 25, Last annotation Establish to dual specificity phosphatase 8 Homo sapiens (Human). Eukaryota, Metazoa; Chordata; Craniata; Verner mail Eutheria; Primates; Catarrhini;	ÎyPri CATTO 	1801 CAGAAGCCAAGTGACAGAGCTGACTGCCGGGGGGGGGGG	Qy 1681 ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT 1740 Db 271	QY 1561 CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC 1620 Db 271

밁 Ş

Ş 밁 Ś В Ş 밁 Ś g ş В Ş 片 Ś 밁 Ş 뫄 Ş 뮍 Ś

밁 Ś 밁 Ś 뭥 Ş Дb Ş 밁 Ś 밁 Ş B

g Qy	ት &	д Q у	B &	QV db	Qy db	Qy dd	D Qy	Db Qy	g &	B 8	음 &	gb Qy	Db Qy	B 8	B 8	g Q	US-10-02	Best Loc Query Ma DB:
955 CCAAATGAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACG 1005	895 AAGAACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAG 954 301 LysLeuAlaAlaLeuGlnGlyAspProGlyThr 312	835 CCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATT 894 :::	775 ATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAAA	715 TGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTAC 774 :::	655 ATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCCAATGGA 714	595 GACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCCTTTTGTGAGAAA 654	535 CTGATACAGCAGAATGGGATTGGTTTAAATGCCAGCTATACCTGTCCAAAGCCT 594 :::	475 CCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAG 534 :::	418TCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGG 474 :::	358 CTGCTTGCAGGTGGGTTTGCTGAGTTCTCTGTTTCCCTGGCCTCTGTGAAGGAAAA 417	298 TCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCAC 357 :::	238 GATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCCTCTCTCT	178 CAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATT 237 ::: ::: :: ::: 61 GlnGlyLysValThrIleAlaGluLeuIleGlnProAlaAlaArgSerGlnValGluAla 80	118 TCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAA 177 ::: :::::	58 GAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACA 117	1 ATGCCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGTGCTCTGCTG 57 ::: :::::::::::::::::::::::::::	29-345A-108_COPY_538_2532 (1-1995) x Q86SS8 (1-625)	Best Local Similarity: 45.05% Mismatches: 185 Query Match: 36.71% Indels: 104 DB: Gaps: 21
8 8	? B \$	Ş ₽ ;	OV D	\$ ₽ ï	S B :	S B 7	S B 7	S B :	S B :	ov B	\$ B	Q B (Q B 1	8 B	Q B	OV Db	\$ B	. Q
:::			 			499 ProGlyGlnProAlaGlyProGlyAla 648 ACCCCTTCCCTGACCAGCAGCTGGTAT	479 AlaAla 615		::: ::: 460Ser 467 1504 CCACTGCAACTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC 1560	::: ::: ::: :::	AspSerProSerGlyAlaAlaLeuGlyLeuSerSerProSerProAspSerProAsp AAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAGAGC		402TyrAlabroSer 405 1300 ACTACTCTGGATGGGACCAAC	388 ASDATGLEULYBATGSETPHESETLEUABDITELYBSETALA		::: 351 GlyLeuSerAlaGlyGlyGluProProAlaProProThrProProAlaThr 367 1120 AGCCCGCTGGTACAGGCGCTCAGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGC 1179	1060 CCCGTGCATCCCGCCAGCGTGCCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGAC 1119	1006 CCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTCAGAGGCAGGACGAGGACAAAGG 1059

```
RESULT 9

Q77TSZ9

ID Q7TS

AC Q7TS

D7 Q7TS

AC Q7TS

D7 Q1-C

D8 D0-C

D9 Q1-C

D1 Q1-C

D8 Muss

OC Mams

OC Mams

OX NCB

RN (1)

RP SEQ

RX NCB

RA K1:

RA AL:

RA AL:

RA AL:

RA AL:

RA AL:

RA B:

RA B:

RA B:

RA RB

                                                                      S
                                                                                                                 밁
                                                                                                                                                   Ś
                                                                                                                                                                                          밁
                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                   US-10-029-345A-108_COPY_538_2532 (1-1995) x Q7T8Z9 (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment Scores:
Pred. No.:
Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RP SEQUENCE FROM N.A.

RC STRAIN=C37BL/6; TISSUE=Brain;

RX MEDLINE=22388257; PubMed=12477932;

RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

RA Altschul S.F., Zeeberg B., Buetow K.H., Schamer C.M., Schuler G.D.,

RA Altschul S.F., Zeeberg B., Buetow K.H., Schamer C.M., Schuler G.D.,

RA Altschul S.F., Zeeberg B., Buetow K.H., Schamer C.M., Bhat N.K.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Brownstein M.J., Usdin T.B., Toshyuki S., Carninci P., Prange C.,

RA Brownstein M.J., Usdin T.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Rahas S.J., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Richards S., Worley N.M., Sodergren E.J., Lu X., Gibbs R.A.,

Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

RA Halkesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

RA Rodriguez A.C., Shalska U., Smailus D.E., Schnerch A., Schein J.E.,

"Generation and initial analysis of more than 15,000 full-length human

RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Strausberg R.;
Strausberg R.;
Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.
EMBL: BC052705; AAH52705.1; - 9166E36A8835249F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=C57BL/6; TISSUE=Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-OCT-2003 (TrEMBLrel.
01-OCT-2003 (TrEMBLrel.
01-OCT-2003 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q7TSZ9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Dusp8 protein.
Mus musculus (
                                     81
                                                                                                                                                   178
                                                                                                                                                                                                                             118
                                                                                                               61
                                                                                                                                                                                          41
                                                                                                                                                                                                                                                                     21
                                                                                                                                                                                                                                                                                                                                                         1 ATGGCCCATGAGATGATTGGAACTCAAATTGTT---ACTGAGAGGTTGGTGGCTCTGCTG
            CAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATT
                                                                                                                                                                                      TCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAA
                                                                                    GinglyLysValrhrileAlaGluLeuileGinProAlaThrArgSerGlnValAspAla
                                                                                                                                                               ArgGlydlyProGlyGlyProLeuValileAspSerArgSerPheValdluTyrAsnSer 40
                                                                                                                                                                                                                                                                     GAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACA
                                                                                                                                                                                                                                                                                                                    MetAlaGlyAspArgLeuProArgLysValMetAspAlaLysLysLeuAlaSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                     1.86e-91
1304.00
57.22%
43.46%
36.07%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  319
101
176
                                                                                       80
                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                 117
                                                                                                                                                                                                                                                                                                                        20
                                                       Ş
                                                                                                 밁
                                                                                                                                    Ś
                                                                                                                                                                              밁
                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                        뫄
                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                               Ъ
                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                 Б
                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DЬ
                                                            1270
                                                                                                                                    1210
                                                                                                                                                                                                               1150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      161
GlyGluAlaProLysLeuCysLysLeuAspSerProSerGlyGlyThrLeuGlyLeu---
                                   GAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAACAAGCTATGC
                                                                        IleLysSer---AlaTyrAlaProSerArgArgProAspPheProGlyProProAspPro
                                                                                                               ATCAAATCAGTITCAGATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTCTCCTCATCA 1269
                                                                                                                                              CACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTCTCTCTGGAT 1209
                                                                                                                                                                                                                                          SerAlaLeuGln-----
                                                                                                                                                                                                                                                                  CCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAGTGGGCTG
                                                                                                                                                                                                                                                                                                        GluGlySerProSerAlaGlyGlyAspAlaProlle---ProSerThrAlaProAlaThr 369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAGAAGCCAAATGAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCC 1008
                                                                                                                                                                                                                                                                                                                                                                                  -----ProSerThrSerGluSerAlaAlaThrGlySerGluAlaAlaThrAlaAlaArg 350
                                                                                                                                                                                                                                                                                                                                                                                                                          CTCAGTCCACCCTGTGCCGACTCTGCTACC----TCAGAGGCAGCA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                             GlyThrPro---GluProLeuMetGlyProAlaAlaGiyIleProLeuProArgLeuPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LysLeuLeuAlaAlaLeuGlnThrAspGlyPro-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGAACCAGACTGGA-----GCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCTGCTG 948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProSerileSerProAsnPheAsnPheLeuGlyGinLeuLeuGlufyrGiuArgSerLeu 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IleMetLysThrMetGlyMetSerSerAspAspAlaTyrArgbhevaiLysAspArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTITGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACTTTATCCCCGAGTCTCATTTCCTGCGTGTGGCTGTGAATGACAGGCTTTTGTGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCT 594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProAlaThrLeuProSerMetSerLeuSerGlnProCysLeuProValProSerValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCACTCTAGTCCCTACC---TGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AlaAspSerPheLeuSerIleLeuLeuSerLysLeuAspGlyCysPheAspSerValAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----- GGACAAAGGCCCGTGCATCCCGCCAGCGTGCCCAGCGTG 1089
                                                                                                                                                                                                                               GlnGlyLeuArgGlyLeu 379
                                                                                                                                                                                                                                                                                                                                                                                                                        1050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               280
```

240 714 220 654

```
밁
                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                중 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          중 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ち 음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        중 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                       O9AG15

PRELIMINARY; PRT; 300 AA.

O9AG15;

O1-JUN-2001 (TrEMBLrel. 17, Created)

O1-JUN-2001 (TrEMBLrel. 17, Last sequence update)

O1-OCT-2003 (TrEMBLrel. 25, Last annotation update)

Map kinase phosphatase-M B2 isoform.

DUSP16 OR 3830417M17RIK.

Mus musculus (Mouse).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eumammalia; Eutheria; Rodentia; Sciurognathi; Muridae; MCBI_TaxID=10090;

(NCBI_TaxID=10090;
SEQUENCE FROM N.A. STRAIN=BALB/c; Matsuguchi T., Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1330
                                                                                                                                                                                                                                                                                                                                                                                    1954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         438
                                                                                                                                                                                                                                                                                                                                                CAGTCTAGCTTTTCGGGCAGCATGGAAATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGAGAGAGCATCATGTCAGAGAAACAGGTCACGG---GAAGAGCTGGGGGAAAGTGGGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TrpProGluGluProAlaAlaAspAlaGlnPheLysArgArgSerCysGlnMetGluPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGCATGAAGAGACCCCCTTTGAAAAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SerSerSerAspLeuArgArgArg-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerAlaPheGlyArgValSerAlaGlyAlaProGlyProGlyAsnSerSerSerGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTGCC----TCAGCCATCTACGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCCCTGACCAGCAGCTGGTATTTTGCCACAGAGTCCTCACAC-----TTCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlnProAlaGlyProGlyGlyTrpValProProLeuAspSerPro-----GlyThrPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTCGGCCTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTG-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----ThrProArgHis-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTTTTATCTCCACTGCATCGAAGTGGGAGCGAGGACAATTACCACACCAGCTTCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ProAlaArgSerProAlaHisGlyLeuGlyLeuAsnPheGlyAspThrAlaArgGln---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGCAAGCGA----TTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ::: |||:::|||:::
Asp---SerValProGluCysArgProArgProArgArgArgArgProProAlaSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAAGCCAGCATCCCCAAG------AAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCTGATAAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                        GluGluGly---MetValGluGlyArgAlaArgGlyGluGluLeuAlaAlaLeuGlyLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAAGTCTATTCTGTGCGCAGGCGGCAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             {\tt SerProAspGlyProTrpCysPheSerProGluGlyAlaGlnGlyProGlyAlaValPheserProAspGlyAlaValPheserProAspGlyProTrpCysPheSerProGluGlyAlaGlnGlyProGlyAlaValPheserProAspGlyProTrpCysPheSerProGluGlyAlaGlnGlyProGlyAlaValPheserProAspGlyProTrpCysPheSerProGluGlyAlaGlnGlyProGlyAlaValPheserProAspGlyAlaGlnGlyProGlyAlaValPheserProAspGlyAlaGlnGlyProGlyAlaValPheserProAspGlyAlaGlnGlyProGlyAlaValPheserProAspGlyAlaGlnGlyProGlyAlaValPheserProAspGlyAlaGlnGlyProGlyAlaValPheserProAspGlyAlaGlnGlyProGlyAlaValPheserProAspGlyAlaGlnGlyProGlyAlaValPheserProAspGlyAlaGlnGlyProGlyAlaValPheserProAspGlyAlaGlnGlyProGlyAlaValPheserProAspGlyAlaGlnGlyProGlyAlaValPheserProAspGlyAlaGlnGlyProGlyAlaValPheserProAspGlyAlaGlnGlyProGlyAlaValPheserProAspGlyAlaGlnGlyProGlyAlaValPheserProAspGlyAlaGlnGlyProGlyAlaGlnGlyProGlyAlaGlnGlyProGlyAlaGlnGlyProGlyAlaGlnGlyProAspGlyAlaGlnGlyProGlyAlaGlnGlyProGlyAlaGlnGlyProGlyAlaGlnGlyProGlyAlaGlyProAspGlyAlaGlnGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaGlyProGlyAlaG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ---GlyLeuSerAla------LeuSerAlaProGlyLeuProGlyProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----ProSerProSerProAspSerPro
   Musikacharoen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTGCCAGTTACTCTGCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGAC
 ;
                                                                                           Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
 Johnson
 T.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----AspValArgThrGly
 Kraft
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ::
   A.S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           445
                                                                                                                                                                                                                                                                                                                                                                                                                            651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                 5
                                                                                                                         Ś
                                                                                                                                                                       멼
                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                    뫄
                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-029-345A-108_COPY_538_2532 (1-1995) x Q9AG15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR000340; DS_phosphatase.
InterPro; IPR000340; MAPK_phosph.
InterPro; IPR000343; MAPK_phosph.
InterPro; IPR000387; TYR_phosphatase.
IPR001764; MAPKPHPHTASE.
IPR01775; PR001764; MAPKPHPHTASE.
IPR01775; PR001765; RHOD; I.
IPROSITE; PS000450; RHOD; I.
IPROSITE; PS00056; RHODANESE 3; I.
IPROSITE; PS00056; TYR_PHOSPHATASE_2; I.
IPROSITE; PS00056; TYR_PHOSPHATASE_DUAL; I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Yoshikai Y.;

"A Novel MKP is an Important Negative Regulation in Macrophages.";

Mol. Cell. Biol. 20:6999-7009(2001).

EMBL; AF345954; AAKX5055:1; -.

HSSP, Ol6828; IMKP.

MGD; MGI:1917936; Dusp16.

GO; GO:0005737; C:nucleus; IDA.

GO; GO:0005515; F:protein binding; IPI.

GO; GO:000188; P:inactivation of MAPK; II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                           121
                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                   101
                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                    241
                                                         481
                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                       123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                              81
                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                          AspArgValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                         CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                     ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                           LeuAla-----
                                                                                                                                                                                                               CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                     AspCysPheLeuThrValLeuLeuGlyLysLeuGluArgSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5.79e-77
1114.00
40.75%
38.95%
30.82%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              33624 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4C61846ACDF0F456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Regulator of LPS-mediated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    بر
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (1-300)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
259
12
11
383
                                                                                                                                                                             . . . . . . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ž
```

90 300 100 360 120 420 122

122

음 성

유 성

1501 TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC 1560 216	\$41 CAGCAGAATTGGTTTTGTTTTTAATTGCCAGCTATACCTTACCAAAGCCTTACCTTTTTGTAAAAGCCTTACCTTTTTGTAAAAAGCCTTACCTTTTTGTAAAAAATTTTTGGTAAAAATTTTTTGTAAAAAA
Alignment Scores: Pred. No.: 891.00 Asches: Percent Similarity: 98.87\$ Best Local Similarity: 97.74\$ Ouery Match: 24.65\$ DB: US-10-029-345A-108_COPY_538_2532 (1-1995) x QBBZE4 (1-206) Qy 1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGAA 60	Db 216

중 음

Ś В γQ В Ş g 8 뮍 Ş

문 S DЬ

Ś 밁 Ś B Ş 망 Ś 문 S В Ś 밁 Ś B Ş 뫄 γQ Db Ś

닭

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                       I suppressor locus.";
I suppressor locus.";
I submitted (JUN-2001) to the EMBL/GenBank/DDBJ databases.
I Submitted (JUN-2001) to the EMBL/GenBank/DDBJ databases.
R EMBL; AY038927; AAK689770.1; -.
R GO; GO:0017017; F:MAP kinase phosphatase activity; IEA.
R GO; GO:0016717; F:MAP kinase phosphatase activity; IEA.
R GO; GO:0016717; F:MAP kinase phosphatase activity; IEA.
R GO; GO:0016710; PR001763; Rhodanese-like.
R InterPro; IPR001763; Rhodanese-like.
R InterPro; IPR001763; Rhodanese-like.
DR Pfam; PF00581; Rhodanese; 1.
DR PRINTS; PR01764; MAPKPHPHTASE.
DR PROSITE; P850206; RHOD; 1.
DR PROSITE; P850206; RHOD; 1.
SO SEQUENCE 143 AA; 16077 MW; 5213A213AA7E5974 CRC64;
                                                                                                                                    Alignment Scores:
Pred. No.:
US-10-029-345A-108_COPY_538_2532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q96QS2 PRELIMINARY; PRT; 143 AA.
Q96QS2;
01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Montpetit A., Boily G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Truncated MAPK phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                          detailed transcriptional
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 CACATTITGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           μ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AspCysPheLeuThrValLeuLeuGlyLysLeuGluArgSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CysAsnGlnLysValValValTyrAspGlnSerSerGlnAspValGlySerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MetAlaHisGluMetIleGlyThrGlnIleValThrGluSerLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (Human)
                                                    1.2e-41
653.00
70.35%
70.35%
18.06%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                          Sinnett
onal map
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .7
  (1-1995) \times Q96QS2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                          of the
                                                        Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                            chromosome 12p12
  (1-143)
                                      143
140
0
3
56
                                                                                                                                                                                                                                                                                                                                IEA
                                                                                                                                                                                                                                                                                                                                                                                                                            tumor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20
RESIDENT RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q8ST19;
Q8ST19;
01-JUN-2002
01-JUN-2002
01-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-JUN-2002 (TrEMBLrel. 21, Created)
01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
01-CCT-2003 (TrEMBLrel. 25, Last annotation updat
Hypothetical protein F08B1.1a.
                                                                                                                                                                                                           "Genome sequence of the nematode C. elegans: a plinvestigating biology. The C. elegans Sequencing Science 282:2012-2018(1998).
                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
STRAIN=Bristol N2;
MEDLINE=99069613; PubMed=9851916;
                                                                                                                                                                                                                                                                                                                                                                                      Caenorhabditis elegans.
Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
Rhabditidae; Peloderinae; Caenorhabditis.
Waterston R.; "Direct Submission.";
                                      STRAIN=Bristol N2;
                                                        SEQUENCE FROM N.A.
                                                                                                  Submitted
                                                                                                                                STRAIN=Bristol
Chissoe S.;
                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   F08B1.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      13
                                                                                                                  sequence of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ence of C. e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LeuAlaGly--Ala-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          leLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                              elegans
) to the
                                                                                              cosmid F08B1.";
EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     update)
                                                                                                databases
                                                                                                                                                                                                                                                   platform
                                                                                                                                                                                                                                 latform for Consortium.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .-----АврА
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ------
```

126 540 124 480 124 420 120 360 100 300 08 240 60 180 40 120 20 60

밁 중 음 중 유

S 밁 ঠ 밁 S 밁 S 밁 S 밁 S

```
밁
                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                            ₽
                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-029-345A-108_COPY_538_2532 (1-1995) x Q8ST19 (1-657)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment Scores:
Pred. No.:
Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R Wormbep; FOBIL.1a; CE2791B

R GO; GO:0015787; F:hydrolase activity; IEA.

R GO; GO:00157017; F:MAP kinase phosphatase activity; IEA.

R GO; GO:0017017; F:MAP kinase phosphatase.

R GO; GO:0006470; P:protein amino acid dephosphorylation; IEA

R InterPro; IPR000340; DS phosphatase.

R InterPro; IPR000343; MAPK phosph.

R InterPro; IPR000343; MAPK phosph.

R InterPro; IPR000387; TYR phosphatase.

Pfam; PF00782; DSPc; 1.

R PRINTS; PR01764; MAPKPHPHTASE.

R PRINTS; PR01764; MAPKPHPHTASE.

R PRNITS; SM00450; RHOD; 1.

R PROSITE; PS00383; TYR PHOSPHATASE 1; 1.

PROSITE; PS00383; TYR PHOSPHATASE 1; 1.

PROSITE; PS00383; TYR PHOSPHATASE 1; 1.

PROSITE; PS0056; TYR—PHOSPHATASE DUAL; 1.

OR PROSITE; PS0056; TYR—PHOSPHATASE DUAL; 1.

OR HYPOTHETICAL PROSOCS4; TYR—PHOSPHATASE DUAL; 1.

OR HYPOTHETICAL PROSOCS4; TYR—PHOSPHATASE DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (JUN-2001) to the EMBL/GenBank/DDBJ databases. EMBL; U23178; AAK68299.1; -. HSSP; Q16828; IMKP.
                                                                182
                                                                                        493
                                                                                                                                             439
                                                                                                                    163
                                                                                                                                                                        143
                                                                                                                                                                                                                             123
                                                                                                                                                                                                                                                      331
                                                                                                                                                                                                                                                                             283 GTTGCCTCTC-----TCTTCAGACTGTTTTCTCACTGTACTTCTGGGTAAA
                                                                                                                                                                                                                                                                                                                                                                                                                      196
                                                                                                                                                                                                                                                                                                                                      88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          148
                                                                                                                                                                                                                                                                                                                                                                                            69
                                                                                                                                                                                                                                                                                                                                                                                                                                                49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  28
                    ATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAG----
                                                                                                                     ATTICTCAGCCTTGCTTA-----CCTGTTGCCAACATTGGGCCAACCCGAATTCTTCCC
                                             AsnileTyrLeuGlySerGintleAspSerLeuAspGluThrMetLeuAspAlaLeuAsp 201
                                                                          AATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGG
                                                                                                    LeuSerGinProCysLeuSerGlnProThrGlyAsp---GlyIleThrLeuileThrPro
                                                                                                                                                        AlaGlnGlnTyrProGlnLeuCysGluSerSerGluGlyMetThrArgLeuProGlnSer
                                                                                                                                                                          TCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC-----ACTCTAGTCCCTACCTGC
                                                                                                                                                                                                                                                   CTGGAGAAGAGC----
                                                                                                                                                                                                                                                                 rleAlaSerCysAsnAlaProGluSerThrAlaLysIleMetArgValLeuArgGluArg
                                                                                                                                                                                                             HisGlnLeuMetSerCysSerSerGlyCysThrLysMetAspGluLysLeuAspLeu---
                                                                                                                                                                                                                                                                                                                                                                                                ACAGAGCTCATCCAGCATTCAGCG------AAACATAAGGTTGACATTGAT 240
                                                                                                                                                                                                                                                                                                                                                    TGCAGTCAGAAGGTTGTAGTTTACGATCAA-----
                                                                                                                                                                                                                                                                                                                                                                                                                         TGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTG------TTAATT 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AspCysArgGlyPheThrGluTyrAsnGluSerHisValArgHisSerMetAsnAlaPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GATAGCCGGCCATTTGTGGAATACAATACATCCCACATTTTGGAAGCCATTAATATCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ileSerThrCysGlyLeuAlaAlaLeuIleArgGluAlaProAspThrThrLeuValVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAAAGTGGAACGGAAAAAGTGCTGCTAATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.42e-39
628.50
46.42%
31.35%
17.39%
                                                                                                                                                                                                                                                                                                                      -valleuTyrAlaGluGluAspLysProArgGlyAsnLysArgArg
                                                                                                                                                                                                                                 TTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            657
206
99
212
140
25
                                                                                                                                                                                                                                                                                                                                                 -----AGCTCCCAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IEA
                                                                                                                                                          162
                                                                                                     181
                                                                                                                                                                                                                                                                                             330
                                                                                                                                                                                                                                                                                                                         102
                                                                                                                                                                                                                                                                    122
                                                                                                                                                                                                                                                                                                                                                                             87
                                                                                                                                                                                                                                                                                                                                                                                                                                 89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   87
                                                       밁
                                                                                 á
                                                                                                              밁
                                                                                                                                   Ş
                                                                                                                                                                 뮰
                                                                                                                                                                                        5
                                                                                                                                                                                                                    뫄
                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                          뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
1603 GGCCTTAAGGGCTGGCACTCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACC
                                                                                                                                                                                                                                                                                                                                                         1270
                                                                                                                                                                                                                                                                           410
                                                                                                                                                                                                                                                                                                                                                                                                             1210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1090 CCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGGCTGGTACAGGCGCTCAGTGGGCTG 1149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             393
                                                                                                                                                                                                                                                                                                                                                                                                                                         381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       332 ArgHisMetAspTyrTyrGlyProSerAspLeuCysPro-----ProLysValProLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      282 LysMetGlySerAspAspAlaTyrArgTyrValLysGluArgArgProSerIleSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        262
                                        nProCysPheAsnSerProIleIleProValAlaSerSerSerArgGluValIle-----
                                                                  ACCAGCTTCCTTTTCGGCCTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTG
                                                                                                                        GCCCAGAGGTCCCTTTTATCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCAC 1542
                                                                                                        oSerThr---ProlleLeu
                                                                                                                                                   ProSerProSerThrGluLeuSerArgLeuSerPhe-AsnGlyProGluAlaIleAlaPr
                                                                                                                                                                           CCTTCAGACAGC---CAGAGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGCAGCACC 1482
                                                                                                                                                                                                       ProHisArgProLyshlaLeuGlyLeuProSerArgIleGlyThrSerValAlaGluLeu 447
                                                                                                                                                                                                                                   CCTGATAAGGAGGAAGCC----AGCATCCCCAAGAAGCTGCAGACCGCC----
                                                                                                                                                                                                                                                           -----SerGlyThrValAsnValAsnGlyLysArgAsnMetThrMetAspLeuGlyLeu 427
                                                                                                                                                                                                                                                                                      CAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGGAAACCAGT------
                                                                                                                                                                                                                                                                                                                                         GAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAACAAGCTATGC 1329
                                                                                                                                                                                                                                                                                                                ThrAlaSerAlaProProSerMetProSerThrSerGluGlnGlyThrSer-----
                                                                                                                                                                                                                                                                                                                                                                                               ATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTCTCCTCATCA 1269
                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTCTCTCTGGAT 1209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ProSerValSerGluGlySerAlaAlaSerGluPro--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerAlaSerSerAsnCysValPheProGlySerThrHisAspGluSerSerProSerSer 369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAATGAACCTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCTCAGTCCACCCTGTGCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ------IleiysAspHisValLeuAspTyrAsnGlnAlaSerArgProHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AsnPheAsnPheMetGlyGlnLeuLeuGluTyrGluAsnValLeu-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGACTGGA 909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProMetAlaTyrGluPheLeuGluLysCysArgAlaGlyLysLysCysLeuIleHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTTCTAGTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -GluThrSerSerAlaAlaSer-----SerSerSer 392
                                                                                                -AsnPheThrAs
                                                                                                                                                                                                                                    ----AGG
                 1662
                                           494
                                                                                                                                                     467
                                                                                                                                                                                                                                                                                         1377
                                                                                                                                                                                                                                                                                                                    409
                                                                                                                                                                                                                                                                                                                                                                                                                            381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               669
```

밁 Ś 망 Ś 밁 δ 밁 8 В Ś

```
RESULT

QRETILE

ID

QRETILE

Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                           REMBLE 103178; AAK68300.1; -.

REMBLE 103178; AAK68300.1; -.

REMBLE 103178; PAK68300.1; -.

REMOTREP; FORBELLE; CE27919.

RE GO; GO:0016787; F:hydrolase activity; IEA.

REGO; GO:0016787; F:protein tyrosine/serine/threonine phosphata...

REGO; GO:0006470; P:protein amino acid dephosphorylation; IEA.

REGO; GO:0006470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q8ST18;
Q8ST18;
01-JUN-2002
01-JUN-2002
01-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Genome sequence of the nema investigating biology. The C Science 282:2012-2018(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
STRAIN=Bristol N2;
MEDLINE=99069613; PubMed=9851916;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Caenorhabditis elegans.
Bukaryota; Metazoa; Nematoda; Chromadorea;
Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Direct Submission.";
Submitted (JUN-2001) to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
STRAIN-Bristol N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "The sequence of C. (
Submitted (APR-1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hypothetical F08B1.1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chissoe S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN-Bristol N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                              No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Waterston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               None
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1715
                                                                                                               Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAAA 1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     aSerThrGluValProAlaGlySerSerSerIleSerThrProSerGly---SerGlnSe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGGCAGAAGCCAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               oAlaAla--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGCAGCTGGTATTTTGCCACAGAGTCCTCACACTTCTACTCTGCCTCAGCCA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rThrProAlaSerAlaSerSerSerAlaAlaSerArgCysArgMetLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (TrEMBLrel. 21, Created)
(TrEMBLrel. 21, Last sequence update)
(TrEMBLrel. 24, Last annotation update)

protein F08B1.1b.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
7.25e-31
515.00
45.32%
31.55%
14.25%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             elegans
to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            nematode C. elegans: a platform The C. elegans Sequencing Consor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cosmid F08B1.";
EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCTACGGAGGCAGTGCCAGTTACTCTGCCTACAGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SerSerSerSerThrSerSerGluProSerPheAs
  Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----LeuThrLeuProThrPr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rhabditida;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       databases
  606
165
72
173
113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Consortium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rhabditoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              515
                                    멍
                                                                                     5
                                                                                                                                          밁
                                                                                                                                                                                 δ
                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-029-345A-108_COPY_538_2532 (1-1995) x Q8ST18
                                                                                                                                                                                                                                                                                                                                                                             1132
                                                                                                                                                                                         1252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1012 AGTCCACCCTGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCC
                                                356
                                                                                                                                                                                                                                    331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAGCCAAATGAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAAGCGAGACGCCCCTC
    ACCAGT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CATGGCTTCTCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                           GluSerSerProSerSerProSerValSerGluGlySerAlaAlaSerGluPro----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCAGCGTGCCCAGCGTGCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTA 1131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlnAlaSerArgProHisArgHisMetAspTyrTyrGlyProSerAspLeuCysPro---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTAAGAACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCTATCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ValCysIleLysGluAspLysAsnPheMetArgIleProValAsnAspSerTyrGlnGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACTTTATCCCCGAG---TCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTTGTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               :::::
MetLeuAspAlaLeuAspIleSerValValIleAsnLeuSerMetThrCysProLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTA-----CCTGTTGCCAACATTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlyGlyPheLysGlnPheAlaGlnGlnTyrProGlnLeuCysGluSerSerGluGlyMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC-----
                                                                                            GGGACCAACAAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAA
                                                                                                                                                                                                                                                                                                                                                                             CAGGCGCTCAGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ---ProLysValProLysSerAlaSerSerAsnCysValPheProGlySerThrHisAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Leu----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LysLysCysLeuIleHisCysLeuAlaGlyIleSerArgSerProThrLeuAlaIleSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ThrArgLeuProGlnSerLeuSerGlnProCysLeuSerGlnProThrGlyAsp---Gly
                                                                                                                                                                                                                                                                                   SerSerSerThrAlaSerAlaProProSerMetProSerThrSerGluGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           v
    -CCTGATAAGGAGGAAGCC---AGCATCCCCAAGAAGCTGCAG 1416
                                                -----SerGlyThrValAsnValAsnGlyLysArgAsnMet
                                                                                                                                                                                                                                                                                                                                 <del>=</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gapa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----IleLysAspHisValLeuAspTyrAsn
                                                                                                                                                                                                                                       ---GluThrSerSerSerAlaAlaSer---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (1-606)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                244
                                                                                                                                                                                                                                                                                                                                                                               1191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1011
                                                                                                                                                                                                                                    338
                                                                                                                                                                                                                                                                                                                                 330
                                                                                                                                                                                                                                                                                                                                                                                                                             330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            144
```

```
RESULT 15
Q7SZF3
ID Q7SZF
AC Q7SZF
DT 01-0C
RACTION
OC EURAR
OC CYPTI
RN 1C1
RN 1C1
RN SEQUE
RC STRAI
RX BIAKE
RX FAhey
RX Whitti
RX RICAR
RX RICAR
RX RACA
RX RICAR
RX RACA
RX RICAR
RX RACA
R
                    RX MEDIINE=2238825; PubMed=12477932;

RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Altschul S.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.R.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Biotherin M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Baha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Rahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

RA Pahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

RA Krzywinski M.I., Skalsaka U., Smailus D.E., Schnerch A., Schein J.E.,

Van Jones S.J., Marra M.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          유영
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-OCT-2003 (TrEMBLrel. 25, Last sequence up. 01-OCT-2003 (TrEMBLrel. 25, Last annotation | Hypothetical protein. Brachydanio rerio (Zebrafish) (Danio rerio). Bukaryota; Metazoa; Chordata; Craniata; Verta Actinopterygii, Neopterygii; Teleostei; Ostan Cyprimidae; Danio.
                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-OCT-2003
01-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=7955;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q7SZF3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q7SZF3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gMetLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTTGAAA 1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         oSerGly---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGGCGGCAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TACTCTGCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          lGluAsnProPhePheAlaSerThrGluValProAlaGlySerSerSerTleSerThrPr 498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           rSerGluProSerPheAspPheSerSerPheGluSerSerSerSerSerIleValVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCTCAGCCA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -LeuThrLeuProThrProAlaAla-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCCACAGAGTCCTCACACCTTCTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCACTCGGATATCTTGGCCCCCCAGACC 1644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTGGAGGACAATTAÇÇACAÇÇAGCTTCCTTTTÇQGCCTTTCCAÇÇAGCCAGCAGÇACÇTÇ 1584
                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE=Body
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rArgGluValIle----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ||| |||:::||||||
yProGluAlaIleAlaProSerThr---ProIleLeu----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCAGCAGCAGTGCCACCGCCCAGAGGTCCCTTTTATCTCCACTGCATCGAAGTGGGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCGCC-----AGGCCTTCAGACAGC---CAGAGCAAGCGATTGCATTCGGTCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ThrSerValAlaGluLeuProSerProSerThrGluLeuSerArgLeuSerPhe-AsnGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ThrMetAspLeuGlyLeuProHisArgProLysAlaLeuGlyLeuProSerArgIleGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----AsnPheThrAsnProCysPheAsnSerProIleIleProValAlaSerSerSe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        25,
25,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       inSerThrProAlaSerAlaSerSerSerAlaAlaSerArgCy8Ar 517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; Craniata; Vertebrata; El
Teleostei; Ostariophysi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----SerSerSerSerThrSe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCTACGGAGGCAGTGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cypriniformes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    390
                               δ
                                                                              뮍
                                                                                                               Ş
                                                                                                                                                          片
                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                 片
                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                 δõ
                                                                                                                                                                                                                                                                                                                                                                                                         뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=AB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          No.:
251
                                                                                                                                                                                                                                                 192
                                                                                                                                                                                                                                                                                                                                                                          478
                                                                                                                                                                                                                                                                                                                                                                                                                    152
                                                                                                                                                                                                                                                                                                                                                                                                                                                             418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                43
```

```
US-10-029-345A-108_COPY_538_2532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Generation and and mouse cDNA proc. Natl. Acar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hypothetical protein. SEQUENCE 367 AA; 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (MAY-2003) to the EMBL; BC052477; AAH52477.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Strausberg R. Submitted (MA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                  GTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATC
SerSerTrpPheIleGluAlaIleGluPheIleAspSerValLysAspSerAsnGlyArg
                                                                                      TTGCCGTGGTTGGACAATCAGTAGATTTCAGTTGAGAAAGCAAAAGCCTCCAATGGATGT
                                                                                                                        PheGluGlyAspTyrGlnTyrLysCysIleProValGluAspAsnHisLysGluAspIle
                                                                                                                                                      TTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATT
                                                                                                                                                                                      ::: ||||||
LeuAspArgMetG1yIleSerAlaLeuLeuAsnValSerSerAsnCysProAsn---His
                                                                                                                                                                                                            ValGluileLeuProPheLeuPheLeuGlySerAlaLeuHisAlaSerLysLysAspMet
                                                                                                                                                                                                                                                                                                                SerSerMetGluSerSerCysLeuSerCysAlaThrProGlnHisAspGlnGlyGlyPro
                                                                                                                                                                                                                                                                                  ACCCGAATTTTTCTTCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTG
                                                                                                                                                                                                                                                                                                                                                TCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCA 477
                                                                                                                                                                                                                                                                                                                                                                               {\tt SerThrGlnTyrProAspTyrCysLeuLysThrArgThrLeuSerValSerSerSerGln}
                                                                                                                                                                                                                                                                                                                                                                                                                rcreerreccreecerrar-----
                                                                                                                                                                                                                                                                                                                                                                                                                                          CTG---GAGAAGAGCTTCAACTCT---GTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ArgSerSerAspThrAsnThrMetLysAspAspSerThrIleThrLeuValHisAsnAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGCTCCCAAGATGTTGCCTCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AspGluAlaArgSerArgLeuLysSerGlyLeuTyrSerAlavalIleLeuTyrAspGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ArgArgAlaLysGlySerValSerLeuAspGlnIleLeuSerGlyAsp-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGCGAAGG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LeuAlaPheSerAlaGlyHisLeuArgGlyAlaValAsnIleArgCysAsnThrIleVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTGGAATACAATACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LeuLysArgLeuMetLysAspAspGlyAlaLysCysLeuLeuAspCysArgSerphe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTGGTGGCTCTGCTGGAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTT 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE-Body;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  and initial analysis of more than 15,000 iDNA sequences.";
Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ΑA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8.11e-29
487.50
53.82%
33.53%
13.49%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             40538 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----TTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (1-1995) x Q7SZF3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           F89997A415DAD6AC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (1-367)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            124
33
8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             367
114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              full-length
                                                                                                                                                                                                                                                                                                                                                                                                           ----GAAGGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              human
                                                            250
                                                                                             717
                                                                                                                                                         657
                                                                                                                                                                                        210
                                                                                                                                                                                                                                                   191
                                                                                                                                                                                                                                                                                   537
                                                                                                                                                                                                                                                                                                                   171
                                                                                                                                                                                                                                                                                                                                                                                151
                                                                                                                                                                                                                                                                                                                                                                                                             417
                                                                                                                                                                                                                                                                                                                                                                                                                                             131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               34
```

Searc Job t	문	Ş	뫄	ş	B	Ş	망	Ş
Search completed: June 21, 2004, 12:40:18 Job time : 138.154 secs	321ProSerAlaSerLeuGlyProLysSerSerThrProThrSerPro 336	958 AATGAACCT	311AlaThrSerCysSerValGluAlaAlaSer 320	NY 898 AACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCA 957	b 291 IleIleSerProAsnPheSerPheMetGlyGlnLeuLeuGlnPheGluSerGlnValLeu 310	838)b 271 MetLysLysArgValArgLeuGluGluAlaPheGluPheValLysGlnArgArgSer 290	778
	٥,	.7	_	•	-	•	-	•

This Page Blank (uspto)

```
Command line parameters:

-MODEL-frame+ n2p.model -DEV=xlp
-MODEL-frame+ n2p.model -DEV=xlp
-Q-(ggn2 1/USPTO_spool_p_(US10029345/runat_21062004_122818_4331/app_query.fasta_1.3278
-DB=PublIshed_Applications_AA -QFMT=fastan -SUFFIX=rapb -MINMATCH=\overline{0.1}
-LOOPEXT=0 -UNITS=bits -START=1 -END=-1 -MATRIX=bibosum62
-TRANS=human40.cd1 -LIST=45 -DOCALIGN=200 -THR_SCORE=pct -THR_MXX=100
-THR_MIN=0 -ALIGN=15 -MODE=LOCAL -OUTFMT=pto -NORM=ext -HEAPS\overline{1.22818}
-MAXLEN=2000000000 -USER=US10029345_@CGN 11 21 @runat_21062004_122818_4331
-NCPU=6 -ICPU=3 -NO_MANA -LARGBQUERY -MEG_SCORES=0 -WAIT_-DSPBL\overline{0.22818}
-NCRU=6 -ICPU=3 -NO_MANA -LARGBQUERY -NGS_SCORES=0 -NAIT_-DSPBL\overline{0.22818}
-NCRU=6 -ICPU=3 -NO_MANA -LARGBQUERY -NGS_SCORES=0 -NAIT_-DSPBL\overline{0.22818}
-NCRU=6 -ICPU=3 -NO_MANA -LARGBQUERY -NGS_SCORES=0 -NAIT_-DSPBL\overline{0.22818}
-NCRU=6 -ICPU=3 -NO_MANA -NARN -ILMEOUT=3 -NCRU=6 -NAIT_-DSPBL\overline{0.22818}
-NCRU=6 -ICPU=3 -NAIT_-DSPBL\overline{0.22818}
-NCRU=6 -NAIT_-DSPBL\overline{0.22818}
-NCRU=6 -NAIT_-DSPBL\overline{0.22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Minimum
Maximum
     Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OM nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 80
     Score

    No. is the number of results predicted by chance to have a
re greater than or equal to the score of the result being printed,
is derived by analysis of the total score distribution.

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                    Published Applications AA:*

1: /cgn2_6/ptcdata/1/pubpaa/US07_PUBCOMB.pep:*

2: /cgn2_6/ptcdata/1/pubpaa/US06_NEW_PUB.pep:*

3: /cgn2_6/ptcdata/1/pubpaa/US06_NEW_PUB.pep:*

4: /cgn2_6/ptcdata/1/pubpaa/US06_PUBCOMB.pep:*

5: /cgn2_6/ptcdata/1/pubpaa/US07_NEW_PUB.pep:*

6: /cgn2_6/ptcdata/1/pubpaa/US08_NEW_PUB.pep:*

7: /cgn2_6/ptcdata/1/pubpaa/US08_PUBCOMB.pep:*

9: /cgn2_6/ptcdata/1/pubpaa/US08_PUBCOMB.pep:*

9: /cgn2_6/ptcdata/1/pubpaa/US08_PUBCOMB.pep:*

10: /cgn2_6/ptcdata/1/pubpaa/US09B_PUBCOMB.pep:*

11: /cgn2_6/ptcdata/1/pubpaa/US09B_PUBCOMB.pep:*

12: /cgn2_6/ptcdata/1/pubpaa/US09B_PUBCOMB.pep:*

13: /cgn2_6/ptcdata/1/pubpaa/US09B_PUBCOMB.pep:*

14: /cgn2_6/ptcdata/1/pubpaa/US09B_PUBCOMB.pep:*

15: /cgn2_6/ptcdata/1/pubpaa/US10B_PUBCOMB.pep:*

16: /cgn2_6/ptcdata/1/pubpaa/US10B_PUBCOMB.pep:*

17: /cgn2_6/ptcdata/1/pubpaa/US10B_PUBCOMB.pep:*

18: /cgn2_6/ptcdata/1/pubpaa/US10B_PUBCOMB.pep:*

18: /cgn2_6/ptcdata/1/pubpaa/US10B_PUBCOMB.pep:*

18: /cgn2_6/ptcdata/1/pubpaa/US10B_PUB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein search, using frame_plus_n2p model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Xgapop 10.0,
Ygapop 10.0,
Fgapop 6.0,
Delop 6.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-029-345A-108_COPY_538_2532
3615
Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               June 21, 2004, 12:40:31 ; Search time 94.9018 Seconds (without alignments)
11869.448 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1163542 seqs, 282313646 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         atggcccatgagatgattgg.....tggaaatcattgaggtctcc 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
        멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Xgapext
Ygapext
Fgapext
Delext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                . . . . .
     Alignment Scores
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          807
735.5
654.5
654.5
654.5
654.5
```

ALIGNMENTS

```
US-09-816-494-2
; Sequence 2, Application US/09816494
; Patent No. US20020034807A1
; GENERAL INFORMATION:
APPLICANT: Meyers, Rachel A.
; TITLE OF INVENTION: 38692 AND 21117, NOVEL DUAL SPECIFICITY
TITLE OF INVENTION: PHOSPHATASE MOLECULES AND USES THEREFOR
FILE REFERENCE: 10448-030002
; CURRENT APPLICATION NUMBER: US/09/816,494
; CURRENT APPLICATION NUMBER: US 60/191,858
; PRIOR APPLICATION NUMBER: US 60/191,858
; PRIOR APPLICATION NUMBER: US 60/191,858
; PRIOR FILING DATE: 2000-03-24
; NUMBER OF SEQ ID NOS: 10
; SOPTWARE: FASTSEQ for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 665
TYPE: PRT
; ORGANISM: Homo sapiens
US-09-816-494-2
Alignment Scores:
5,84e-234
Length: 665
Score: 3406.00
Matches: 663
```

Db 21 SerdiyHill	Conservative: 1 Mismatches: 1 Indels: 0 Gaps: 0 (1-1995) x US-09-816-494-2 (1-665) GGAACTCAAATTGTTACTGAAGGTTGGTGGTGGTGGAA
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Db 321 GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro 340 Qy 1021 TGTGCCGACTCTGCTACCTCAGAGGCAGCAGAAAGGCCCGTGCATCCCGCCAGCGTG 1080 Db 341 CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal 360 Qy 1081 CCCAGCGTGCCAGCGTGCAGCCGTCGTGGTAGAGGACAGCCCGCTGGTACAGGCGCTC 1140 Db 361 ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu 380 Qy 1141 AGTGGGGTGCCAGCTTGGGAGGGGCTC 1340

Ś

음 성 음

```
GENERAL INFORMATION:

APPLICANT: Luche, Ralf M.

APPLICANT: Wei, Bo

TITLE OF INVENTION: DSP-16 DUAL-SPECIFICITY PHOREMATION: DSP-16 DUAL-SPECIFICITY PHOREMATION: DSP-16 DUAL-SPECIFICITY PHOREMATE PHILICATION NUMBER: US/09/964,277;
CURRENT APPLICATION NUMBER: US/09/964,277;
CURRENT FILING DATE: 2001-09-25;
NUMBER OF SEQ ID NOS: 22;
SOFTWARE: FASTSEQ for Windows Version 4.0;
SEQ ID NO 2;
LENGTH: 665;
TYPE: PRT
GRGANISM: Homo Bapiens
US-09-964-277-2
                                                                                                                                                                                                                                            Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                           중 유
                                                              S
                                                                       유왕
                                                                                              밁
                                                                                                   ঠ
                                                                                                              밁
                                                                                                                       ঠ
                                                                                                                                    밁
                                                                                                                                          S
                                                                                                                                                       ₽
                                                                                                                                                             ð B
                                                                                                                                                                                S
                                                                                                                                                                                            뭐
                                                                                                                                                                                                   ঠ
                                                                                                                                                                                                             밁
                                                                                                                                                                                                                        S
유
                  음 성 음
                                                                                                                                                                                                                                  US-10-029-345A-108_COPY_538_2532 (1-1995) x US-09-964-277-2
                                                                                                                                                                                                                                                                         Alignment Scores:
       661
                                                                                                                                                                         181
                                                                 481
                                                                           141
                                                                                    421
                                                                                              121
                                                                                                       361
                                                                                                                 101
                                                                                                                                                                 181
                                                                                                                                     81
                                                                                                                                                        61
                                                                                                                                                                                             21
                                    CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                       AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                            GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                            ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                            5.84e-234
3406.00
99.85%
99.70%
94.22%
                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                             0011
                                                                                                                                                                                                                                   (1-665)
                                                        180
                                                                                                                                     100
                                                                                                                                                                                    180
                                                                                                                                                                                             40
        720
                   220
                           660
                                     200
                                               600
                                                                           160
                                                                                    480
                                                                                              140
                                                                                                       420
                                                                                                                 120
                                                                                                                           360
                                                                                                                                                                 240
                                                                                                                                                                          60
                                                                                                                                                                                                                 20
           S
                       В
                             S
                                       Вb
                                                 Ś
                                                            유
                                                                              유
                                                                                                  В
                                                                                                         5
                                                                                                                      뭐
                                                                                                                               Ś
                                                                                                                                         밁
                                                                                                                                               5
                                                                                                                                                            멂
                                                                                                                                                                  $
                                                                                                                                                                            망
                                                                                                                                                                                      S
                                                                                                                                                                                                 В
                                                                                                                                                                                                        S
                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                             δ
                                                   1621
                                                                                                            1441
                                                                                                                                                  1321
                                                                                                                                                                                        1201
                                                                                                                                                                                                           1141
                                                                                                                                                                                                                                                  1021
                                                                      1561
                                                                                                                                                                                                                              1081
                                          541
                                                                               501
                                                                                                   481
                                                                                                                       461
                                                                                                                                         441
                                                                                                                                                            421
                                                                                                                                                                               401
                                                                                                                                                                                                  381
                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                        341
                                                                                                                                                                                                                                                           321
                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                    961
                                                                                                                                                                                                                                                                                       901
                                                                                                                                                                                                                                                                                                 281
                                                                                                                                                                                                                                                                                                                    261
                                                                                                                                                                                                                                                                                                                             781
                                                                                                                                                                                                                                                                                                                                                 721
    AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                         GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                            400
                                                                                                                                                                                                                                         360
                                                    1680
                                                                       1620
                                                                                          1560
                                                                                                             1500
                                                                                                                                 1440
                                                                                                                                                   1380
                                                                                                                                                             440
                                                                                                                                                                      1320
                                                                                                                                                                                                            1200
                                                                                                                                                                                                                                                   1080
                                                                                                                                                                                                                                                                     1020
                                           560
                                                              540
                                                                                520
                                                                                                    500
                                                                                                                       480
                                                                                                                                          460
                                                                                                                                                                                420
                                                                                                                                                                                          1260
                                                                                                                                                                                                                      380
                                                                                                                                                                                                                                                            340
                                                                                                                                                                                                                                                                               320
                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                      280
```

밁 Ş Б 5 В Ś 뫄

```
APPLICANT: Purtak, Audmin R.
APPLICANT: Furtak, Katarzyna
APPLICANT: Grosse, William M.
APPLICANT: Alsobrook II, John P.
APPLICANT: Lepley, Denise M.
APPLICANT: Lepley, Denise M.
APPLICANT: Rieger, Daniel K.
APPLICANT: Rieger, Daniel K.
APPLICANT: Buzgess, Catherine E.
TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same CURRENT FILING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: 60/265,102
PRIOR FILING DATE: 2001-01-30
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR FILING DATE: 2001-01-31
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/266,406
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR FILING DATE: 2001-02-07
PRIOR PILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR FILING DATE: 2001-02-07
PRIOR FILING DATE: 2001-02-07
PRIOR PILING DATE: 2001-02-07
PRIOR PILING DATE: 2001-02-07
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR PR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Tchernev, Velizar
APPLICANT: Spytek, Kimberly
APPLICANT: Spytek, Kimberly
APPLICANT: Spytek, Kimberly
APPLICANT: Patturajan, Meera
APPLICANT: Shimkets, Richard
APPLICANT: Li, Li
APPLICANT: Gangolli, Esha
APPLICANT: Padigaru, Muralidha
APPLICANT: Anderson, David M.
APPLICANT: Rastelli, Luca
APPLICANT: Miller, Charles E.
APPLICANT: Gerlach, Valerie
APPLICANT: Tappier Jr, Raymond
APPLICANT: Gusev, Vladimir Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 680, Applic Publication No. US20 GENERAL INFORMATION:
                                        NO 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Padigaru, Muralidhara Anderson, David W. Rastelli, Luca Miller, Charles E. Gerlach, Valerie Taupier Jr, Raymond J. Gusev, Vladimir Y. Colman, Steven D. Wolene, Adam R. Pena Cartin V. Pena Cartin V. Pena Cartin V. Colman, Colman R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Zerhusen, Bryan
Patturajan, Meera
Shimkets, Richard
Li, Li
Gangolli, Esha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GinlysproSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Application US/10072012
DE US20040033493A1
                                                                                   See File Wrapper or PALM
                                                                                                                                                                                                                                                                                                                                                                                                                                      Same
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            620
                                                                         밁
                                                                                                   Ş
                                                                                                                                    밁
                                                                                                                                                        Ş
                                                                                                                                                                                            밁
                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                  뫄
                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                        맑
                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                    DЬ
                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-029-345A-108_COPY_538_2532 (1-1995) x US-10-072-012-680 (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-072-012-680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          No.:
                                                                         261
                                                                                                                                 241
                                                                                                                                                              721
                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                  201
                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                  161
                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                          141
                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
41
                                                      21
                                                                                                               ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                       CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                               ArgīleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuMet
                                                                                                                                                                                                                                                                                                                                                                                                      ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCCTTACCTGTTGCCAACATTGGGCCAACC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATGGCCCATGAGATGGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5.84e-234
3406.00
99.85%
99.70%
94.22%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                         280
                                                                                       840
                                                                                                                 260
                                                                                                                                               780
                                                                                                                                                                           240
                                                                                                                                                                                                     720
                                                                                                                                                                                                                                 220
                                                                                                                                                                                                                                                             660
                                                                                                                                                                                                                                                                                         200
                                                                                                                                                                                                                                                                                                                      600
                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20
```

```
AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 1980
                                                              GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                 AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                 GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                       SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                          TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                  LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                                                                                                                                                                                                             CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                    SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCCAGCGTGCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                        1920
                                                                                                                                             1860
                                                                                                                                                                                                                                                    1740
                                                                                                                                                                                                                                                                                                        1680
                                                                                                                                                                                                                                                                                                                                                             1620
                                                                                                                                                                                                                                                                                                                                                                                                               1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1020
                                                                                                                   620
                                                                                                                                                                        600
                                                                                                                                                                                               1800
                                                                                                                                                                                                                          580
                                                                                                                                                                                                                                                                               560
                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                       520
                                                                                                                                                                                                                                                                                                                                                                                                                                          500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               320
                                                               640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: HILL, RON

APPLICANT: FLANAGAN, PETER

TITLE OF INVENTION: MAMMALIAN PROTEIN PHOSPHATASES

FILE REFERENCE: 038602/1351

CURRENT APPLICATION NUMBER: US/10/168,506

CURRENT FILING DATE: 2002-06-21

PRIOR APPLICATION NUMBER: PCT/US00/34736

PRIOR FILING DATE: 2000-12-21

NUMBER OF SEQ ID NOS: 76

SOFTWARE: PATENTIN Ver. 2.1

SEQ ID NO 14

LENGTH: 665

TYPE: PRT

TYPE: PRT
                       片
                                               S
                                                                            밁
                                                                                                 S
                                                                                                                               닭
                                                                                                                                                      á
                                                                                                                                                                                   밁
                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                      뭐
                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-029-345A-108_COPY_538_2532 (1-1995) x US-10-168-506-14 (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 4
US-10-168-506-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-168-506-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 14, Application US/10168506 Publication No. US20040053229A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: PLOWMAN, GREGORY D
APPLICANT: MARTINEZ, RICARDO
APPLICANT: WHYTE, DAVID
APPLICANT: WANNING, GEBARD
APPLICANT: SUDARSANAM, SUCHA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1981 ATCATTGAGGTCTCC
                                                  421
                                                                             121
                                                                                                     361
                                                                                                                               101
                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             199
481
                       141
                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                    81
                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                           41
                                                                                                                                                                                                                                                                                                                                               21
                                                                                                                                                                                                                                                                                                                                                           61 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                  GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                         CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IleIleGluValSer
                       SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                      5.84e-234
3406.00
99.85%
99.70%
94.22%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   00+1
```

밁

421

1321

441

1381

461

ર્ 밁 ঠ 뭐

1261

1201

401

ð 밁 S 문 S 밁 ક В S В ঠ 밁 5 밁 δ 문 5

1681

1621

541

1561

1501

481

501

5

ક 밁

140 480

420 120 360 100 300 80 240 60 180 40

문

ð

1141

381

8 밁 S 멍 δ 밁

1081

1021

321

301 901

341

В

```
CTTTCCACCAGCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                 TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                            SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                 AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACTGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                  GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                               AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                                                                                                                                                                                                AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                   TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGGATGGCAGCATCCTTACATGGCTTC 1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGTGGGCTGCACCTGTCCGCACACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProvalHisProAlaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCCAGCGTGCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCGGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGTGCCGACTCTGCTACCTCAGAGGCAGCAGCACAAAGGCCCGTGCATCCCGCCAGCGTG 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IleSerProAsnPheAsnPheLeuGlyGinLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   leuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                1500
                                 1620
                                                                                                                                 500
                                                                 520
                                                                                                 1560
                                                                                                                                                                                                                                1440
                                                                                                                                                                                                                                                                                                  1380
                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                  460
                                                                                                                                                                                                                                                                                                                                   440
                                                                                                                                                                                                                                                                                                                                                                   1320
                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                 GENERAL INFORMATION:

APPLICANT: INCYTE GENOMICS, INC.; TANG, Y.Tom
APPLICANT: ELLIOTT, Vicki S.; RANKUMAR, Jayalaxmi
APPLICANT: ELLIOTT, Vicki S.; RANKUMAR, Jayalaxmi
APPLICANT: WANG, Yumei E.; STEWART, Elizabeth A.
APPLICANT: LU, Dyung Aina M.; TRIBOULEY, Catherine M.
APPLICANT: VIE, Henry; WARREN, Bridget A.
APPLICANT: NGUYEN, Danniel B.; CHAWLA, Nariah R.
APPLICANT: NGUYEN, Danniel B.; CHAWLA, Nariah R.
APPLICANT: KEARNEY, Liam
ITILE OF INVERTION, DEROTEIN PHOSPHATASES
FILE REFERENCE: PI-0173 PCT
CURRENT APPLICATION NUMBER: US/10/343,357
CURRENT FILING DATE: 2003-01-28
PRIOR APPLICATION NUMBER: US 60/221,679
PRIOR FILING DATE: 2000-07-28
PRIOR FILING DATE: 2000-07-28
PRIOR PILING DATE: 2000-08-10
PRIOR APPLICATION NUMBER: US 60/224,309
PRIOR APPLICATION NUMBER: US 60/226,728
PRIOR APPLICATION NUMBER: US 60/226,728
PRIOR FILING DATE: 2000-08-18
PRIOR APPLICATION NUMBER: US 60/226,728
PRIOR FILING DATE: 2000-08-18
PRIOR APPLICATION NUMBER: US 60/226,728
PRIOR FILING DATE: 2000-08-18
PRIOR APPLICATION NUMBER: US 60/226,728
PRIOR FILING DATE: 2000-08-18
PRIOR APPLICATION NUMBER: US 60/226,728
PRIOR APPLICATION NUMBER: US 60/226,728
PRIOR APPLICATION NUMBER: US 60/226,728
PRIOR FILING DATE: 2000-08-10
PRIOR APPLICATION NUMBER: US 60/226,728
                                                                                                 NUMBER OF SEQ ID NOS: 20
SOFTWARE: PERL Program
SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 5
US-10-343-357-7
Sequence 7, Application US/10343357
Publication No. US20040058341A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
LENGTH: 665
TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: misc_feature
OTHER INFORMATION: Incyte ID No. U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IleIleGluValSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCACGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         \tt LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              665
   US20040058341A1 7480570CD1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3
```

660

640

1860 620

600 1800 1740 560

580

뭐 Ś 밁 Ş 밁 S 占 Ş 밁 Ş 밁 δ 뫄 Ś рь δ 밁 Ş 밁 Ş 밁 Ş 문 Ş В S Вb S 밁 Ş 멍 Ś 뭐 δ 밁

1441

481

1381

441

461

1261

421

1201

401

1141

381

1081

341

361

1021

321 961 301 901 281 841 261

241 721 221 661 201 109 181

```
Best Local Si
Query Match:
DB:
                                                                                                                                                                                                     유
                8 8 8 8 8 8
                                                                                 8 8 8 8 8 8 8
                                                                                                                                                  중 유
                                                                                                                                                                      ર્
                                                                                                                                                                               멍
                                                                                                                                                                                         ş
                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                              음 성 음
                                                                                                                                                                                                                                                                                        ક
                                                                                                                                                                                                                                                                                                  US-10-029-345A-108_COPY_538_2532
중 유
                                                                                                                                                                                                                                                                                                                      Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                 Score:
                                                                                                                                                                                                                                                                                                                                         Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                   US-10-343-357-7
                                                                                                                                                                121
901
         281
                                     781
                                              241
                                                                 221
                                                                           661
                                                                                    201
                                                                                                       181
                                                                                                                          161
                                                                                                                                   481
                                                                                                                                             141
                                                                                                                                                      421
                                                                                                                                                                         361
                                                                                                                                                                                  101
                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                  181
                                                                                                                                                                                                      81
                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                            41
                                                                                                                                                                                                                                                              21
                                                                                                                                                                                                                                          CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                           ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                           CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAAGCCTCCAATGGATGTGTT
                                                                                    ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                      IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
              ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                  GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                             5.84e-234
3406.00
99.85%
99.70%
94.22%
                                                                                                                                                                                                                                                                                                   (1-1995) x US-10-343-357-7
                                                                                                                                                                                                                                                                                                            Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                             665
663
0
                                                                                                                                                                                                                                                                                                    (1-665)
                                                                  240
                                                                                                                                                                                                      100
                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                     180
         300
                   900
                             280
                                               260
                                                        780
                                                                           720
                                                                                     220
                                                                                              660
                                                                                                        200
                                                                                                                 600
                                                                                                                           180
                                                                                                                                             160
                                                                                                                                                       480
                                                                                                                                                                          420
                                                                                                                                                                                   120
                                                                                                                                                                                            360
                                                                                                                                                                                                                         80
                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                              40
    S
           문
                    유정
                                                                     밁
                                                                             8 8 8 8
                                                                                                                   S
                                                                                                                              문
                                                                                                                                     S
                                                                                                                                              문
                                                                                                                                                        S
                                                                                                                                                                  음 성
                                                                                                                                                                                     음 성
                                                                                                                                                                                                       문
                                                                                                                                                                                                                 S
                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                         ঠ
                                                                                                                                                                                                                                                                                  문
                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                                                                                               ş
                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                           문
     1981
                                                                                                                      1621
                                                                                                                                                                                                                   1321
                                                                                                                                                                                                                                                         1201
                                                                                                                                                                                                                                                                             1141
                                                                                                                                                                                                                                                                                                1081
                                                                                                                                                                              1441
                                         1861
                                                                                                  1681
                                                                                                                                                           1501
                                                                                                                                                                                                                                                                                                                  1021
                                                                                                                                        1561
                                                    601
                                                                                         561
                                                                                                            541
                                                                                                                               521
                                                                                                                                                 501
                                                                                                                                                                     481
                                                                                                                                                                                        461
                                                                                                                                                                                                           441
                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                401
                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                         341
                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                        TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                            ATCATTGAGGTCTCC
             AGGTCACGGGAAGAGCTGGGGAAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 1980
                                                  AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                       GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                             AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                          AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                          CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                       ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
     1995
                                 ysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                              1860
                                                                                                                                                  520
                                                                                                                                                                                                                                                                    400
                                          1920
                                                                                1800
                                                                                                   1740
                                                                                                                                         1620
                                                                                                                                                            1560
                                                                                                                                                                               1500
                                                                                                                                                                                                  1440
                                                                                                                                                                                                                     1380
                                                                                                                                                                                                                                                                                                1140
                                                                                                                                                                                                                                                                                                                   1080
                                                                                                                                                                                                                                                                                                                                      1020
                                  640
                                                    620
                                                                       600
                                                                                          580
                                                                                                                      1680
                                                                                                                                540
                                                                                                                                                                      500
                                                                                                                                                                                        480
                                                                                                                                                                                                           460
                                                                                                                                                                                                                              440
                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                          1260
                                                                                                                                                                                                                                                                             1200
                                                                                                                                                                                                                                                                                       380
                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                            340
                                                                                                                                                                                                                                                                                                                                               320
```

```
Sequence 26, Application US/10377072
| Publication No. US20040009501A1
| GENERAL INFORMATION:
| APPLICANT: Millennium Pharmaceuticals Inc.
| APPLICANT: Cogati, Rory A.J.
| APPLICANT: Cogati, Rory A.J.
| APPLICANT: Cogati, Thomas Joseph
| APPLICANT: Gluckmann, Maria A.
| APPLICANT: Mayers, Rachel E.
| APPLICANT: Williamson, Mark J.
| APPLICANT: Chun, Miyoung
| APPLICANT: Chun, Miyoung
| APPLICANT: Chun, Miyoung
| APPLICANT: Chun, Miyoung
| APPLICANT: Tolai, Fong-Ying
| TITLE OF INVENTION: NOVEL 25669, 26335, 50365, 21117,
| TITLE OF INVENTION: NOVEL 25669, 16616, 16839, 4937, 49931 AND 49933 MOLECULES
| TITLE OF INVENTION: NOVEL 25669, 26594, 26335, 50365, 21117,
| APPLICANT: Thomas Novel 25669, 26594, 26335, 50365, 21117,
| APPLICANT: Thomas Novel 25669, 25934, 26335, 50365, 21117,
| APPLICANTON INVERSE: US 60/037, 072
| TITLE OF INVENTION: NOVEL 25669, 25934, 26335, 50365, 21117,
| APPLICANTON UNMERS: US 60/237, 072
| PRIOR APPLICATION UNMERS: US 60/215, 370
| PRIOR APPLICATION UNMERS: US 60/215, 370
| PRIOR APPLICATION UNMERS: US 60/187, 455
| PRIOR APPLICATION UNMERS: US 60/187, 455
| PRIOR APPLICATION UNMERS: US 60/199, 801
| PRIOR APPLICATION UNMERS: US 60/199, 801
| PRIOR APPLICATION UNMERS: US 60/205, 508
| PRIOR APPLICATION UNMERS: US 60/205
                                                                                                                                                                                                                                                                                                                               ; LENGTH: 665
; TYPE: PRT
; ORGANISM: Homo S
US-10-377-072-26
                                                                                                                                                                                       US-10-029-345A-108_COPY_538_2532 (1-1995) x US-10-377-072-26
                                                                                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                Alignment Scores:
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                NUMBER: PASE
SOFTWARE: PASE
SEQ ID NO 26
TENGTH: 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 6
US-10-377-072-26
                                                                                                                                                                                                                                                                                                                                                                                                               Remaining
NUMBER OF
                                                                      121
                                              41
                                                                                               21
                                                                                                                         61
                                                                                                                                                    ш
                            CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180
                                                                               Prior Application data removed - SEQ ID NOS: 114
                                                                                                                                   ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                               FastSEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IleIleGluValSer
                                                                                                                                                                                                                                                                                                                                           Sapiens
                                                                                                                                                                                                                                                                                                                                                                                          for Windows Version 4.0
                                                                                                                                                                                                                          5.84e-234
3406.00
99.85%
99.70%
94.22%
                                                                                                                                                                                                                              Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                         Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                 See
                                                                                                                                                                                                                                                                                                                                                                                                               File Wrapper
                                                                                                                                                                                          (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                or
                                                                                  40
                                                                                                          120
                                                                                                                                     20
                                        밁
                                                             Ş
                                                                                     밁
                                                                                                                Ś
                                                                                                                                            밁
                                                                                                                                                               δ
                                                                                                                                                                                             밁
                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
              1261
                                                                                                                 1141
                                                               1201
                                                                                                                                                                     1081
                                                                                                                                                                                                                       1021
                                                                                        381
                                                                                                                                          361
                                                                                                                                                                                              341
                                                                                                                                                                                                                                                                        961
                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                           901
                                                                                                                                                                                                                                                                                                                                                     281
                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                        261
                                                                                                                                                                                                                                                                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                         SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                     TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC 1260
                                                                AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC 1200
                                                                                                                            CCCAGCGTGCCCAGCGGTGCAGCCGTGTTAGAGGACAGCCGCTGGTACAGGCGCTC
                                                                                                                                                                                CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                             TGTGCCGACTCTGCTACCTCAGAGGCAGGAGGACAAAGGCCCGTGCATCCCCGCCAGCGTG 1080
                                                                                                                                                                                                                                                GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                  CAGACTGGAGGATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                    LysArgMetAspMetSerLeuAspGluAlaTyrArgPhevalLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                        CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysileLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1320
                         420
                                                                                                                                                       1140
                                                                           400
                                                                                                                               380
                                                                                                                                                                                 360
                                                                                                                                                                                                                                  340
                                                                                                                                                                                                                                                                                     320
                                                                                                                                                                                                                                                                                                              960
                                                                                                                                                                                                                                                                                                                                                                                           280
                                                                                                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                                                                                                                            260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  80
```

Ś Вb Ś 문 Ş

```
Sequence 2, Application US/10257026
; Publication No. US20040086859A1
; GENERAL INFORMATION: Merck Patent GmbH
; APPLICANT: Merck Patent GmbH
; TITLE OF INVENTION: New dual specificity phosphatase
; FILE REFERENCE: DUSP10KDWS
; CURRENT APPLICATION NUMBER: US/10/257,026
; CURRENT APPLICATION STATE: US/10/257,026
; CURRENT FILING DATE: 2003-11-07
; NUMBER OF SEQ ID NOS: 3
; SOFTWARE: Patentin Ver. 2.1
; SEQ ID NO 2
; LENGTH: 665
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-257-026-2
                                                                                                                       RESULT 7
US-10-257-026-2
                                                                                                                                                     á
                                                                                                                                                                  음 성
                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                ঠ
                                                                                                                                          몽
                                                                                                                                                                                                   ્રેશ્
                                                                                                                                                                                                                밁
                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                               ঠ
                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                     ঠ
                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                              ર્
     Score:
                  Alignment Scores:
Percent Similarity:
            No : :
                                                                                                                                                                                                                                1801
                                                                                                                                                                                                                                                                                1681
                                                                                                                                                                                                                                                                                                        1621
                                                                                                                                                                                                                                                                                                                                                                                 1441
                                                                                                                                                                               1921
                                                                                                                                                                                                                                                                                                                                1561
                                                                                                                                                                                                                                                                                                                                                        1501
                                                                                                                                                                                                       1861
                                                                                                                                                                                                                                                                                                                                                                                             461
                                                                                                                                          1981 ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                    521
                                                                                                                                                                                                                                                                                                                                                                                                                     441
                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                            581
                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                   AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                          AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                         GCCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                            AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                            LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                             5.84e-234
3406.00
99.85%
Length:
Matches:
Conservative:
                                                                                                                                                                               1980
                                                                                                                                                                                                        1920
                                                                                                                                                                                                                                1860
                                                                                                                                                                                                                                                         1800
                                                                                                                                                                                                                                                                                1740
                                                                                                                                                                                                                                                                                                        1680
                                                                                                                                                                                                                                                                                                                                1620
                                                                                                                                                                                                                                                                                                                                                                                  1500
                                                                                                                                                                                                                                                                                                                                                                                                          1440
                                                                                                                                                                                            640
                                                                                                                                                                                                                    620
                                                                                                                                                                                                                                             600
                                                                                                                                                                                                                                                                                             560
                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                             520
                                                                                                                                                                                                                                                                                                                                                         1560
                                                                                                                                                                                                                                                                                                                                                                     500
                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                      460
                                                                                                                                                                    660
                                                                                                                                                                                                                                                                     580
                                                                                                                                                                                                                                                                                                                                                                                                                                              440
         Ş
                        밁
                                   S
                                                밁
                                                         δ
                                                                       밁
                                                                                 ð
                                                                                               밁
                                                                                                          Ś
                                                                                                                       뭐
                                                                                                                                 Ş
                                                                                                                                                밁
                                                                                                                                                          S
                                                                                                                                                                         밁
                                                                                                                                                                                  S
                                                                                                                                                                                                 밁
                                                                                                                                                                                                            S
                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                           멂
                                                                                                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-029-345A-108_COPY_538_2532 (1-1995) x US-10-257-026-2
                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                         181
 321
           961
                        301
                                   901
                                                 281
                                                            841
                                                                         261
                                                                                    781
                                                                                                 241
                                                                                                            721
                                                                                                                         221
                                                                                                                                    661
                                                                                                                                                 201
                                                                                                                                                            601
                                                                                                                                                                                      541
                                                                                                                                                                                                  161
                                                                                                                                                                                                              481
                                                                                                                                                                                                                           141
                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                          101
                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                   81
                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                   41
                                                                                                                                                                                                                                                                                                                                                                           21
                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                  ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                         GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                   MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                       CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                         AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                        99
16
                                                                                                                                                                                                                                                                                                                                                                                                                                              .70%
                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                         001
                                                                                                                                                                                                                                                                                                                                                                                                                             (1-665)
                                                                                                                                                                                                                                                                                                                                                                180
             1020
 340
                         320
                                     960
                                                 300
                                                             900
                                                                          280
                                                                                     840
                                                                                                 260
                                                                                                             780
                                                                                                                         240
                                                                                                                                      720
                                                                                                                                                 220
                                                                                                                                                              660
                                                                                                                                                                           200
                                                                                                                                                                                       600
                                                                                                                                                                                                  180
                                                                                                                                                                                                              540
                                                                                                                                                                                                                           160
                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                   140
                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                   100
                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                           80
                                                                                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                             40
                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                     20
```

유 Ъ Ş 맑 δ

1141

361

381

1081

1021

1201

401

```
AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 1980
                                                                                   ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                              TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC 1680
                                                                                                                                                                                                      TCTCCACTGCATCGAAGTGGGAGGGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC 1560
              Application US/10648593
>. US20040106132A1
                                                                                                                                                                                                                                                   GATAAGGAGGAGGCAGCATCCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                 AAGCTATGCCAGTTCTCCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT 1380
                                                                                                                                                                                                                                                                          SerSerSerdiuAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn
                                                                                                                                                                                                                                                                                                                               TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                               SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                             AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                   665
                                                                                               1920
                                                                                                                      . 1860
                                                                                    640
                                                                                                           620
                                                                                                                                  600
                                                                                                                                                         580
                                                                                                                                                                                                                  1620
                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                       1440
                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                         440
                                                                                                                                                                                                                                                                                                                                                           1260
                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                        400
                                                                                                                                                                                                                                                                                                                                                                                              380
                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                             Вb
                          Ş
                                         В
                                                   Ő
                                                                밁
                                                                         δ
                                                                                       뫄
                                                                                               Ś
                                                                                                             В
                                                                                                                       δ
                                                                                                                                 В
                                                                                                                                              Ş
                                                                                                                                                          밁
                                                                                                                                                                                                                               В
                                                                                                                                                                    Ş
                                                                                                                                                                                   밁
                                                                                                                                                                                            Ś
                                                                                                                                                                                                          밁
                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                       US-10-029-345A-108_COPY_538_2532 (1-1995) x US-10-648-593-240
                                                                                                                                                                                                                                                                                                Query Match:
                                                                                                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                Score:
                                                                                                                                                                                                                                                                                                                     Alignment Scores: Pred. No.:
                 201
                            601
                                         181
                                                   541
                                                               161
                                                                           481
                                                                                       141
                                                                                                  421
                                                                                                             121
                                                                                                                         361
                                                                                                                                    101
                                                                                                                                                301
                                                                                                                                                                      241
                                                                                                                                                                                             181
                                                                                                                                                           81
                                                                                                                                                                                                                     121
                                                                                                                                                                                   61
                                                                                                                                                                                                         41
                                                                                                                                                                                                                               21
                                                                                                                                                                                                                                           61
CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                ileProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysileLeu
                                                                               CGAATICTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                  μ
                                                                                                      CTTGCAGGTGGGTTTGCTTGAAGTTCTCTCGTTGTTTTCTCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                             AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                  GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                   5.84e-234
3406.00
99.85%
99.70%
94.22%
```

RESULT 8
US-10-648-593-240
US-10-648-593-240
; Sequence 240, Apr
; Publication No. 7

י 240, מר no.

220 660 200 180

480 140 420 120 360 100 300 80

Ś 밁 Ś Б Ś 뭐 ð 밁 δ Дb Ş 멍 Ş 밁 Ş Д Ś 밁 S Ъ δ 망 δ Ъ Ş 유 성

1981

641

1861

621

1801

109

1741

581

1681

541

561

1621

1561

1501

481

1381

441

Length:
Matches:
Conservative:
Mismatches:
Indels:

Gaps:

(1-665)

40

20

461

1321

	.741 GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG 1800	17,
מם מ	.681 ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGGCAGTGCCAGTTACTCT 1740	16
Q	.621 TCGGATATCTTGGCCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC 1680	162
D &	561 CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTTGGGCCTTAAGGGCTGGCAC 1620	156
Q	501 TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC 1560	15(5(
G B &	441 AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA 1500 	1441 481
US-	1381 GATAAGGAGGAAGCCAGGATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG 1440 	13: 4:
Per Bes Que	1321 AAGCTATGCCAGTTCTCCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT 1380	13;
Ali Pre	1261 TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC 1320 	120
	1201 TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC 1260 	120
	141 AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC 1200	1141 381
	.081 CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC 1140	1081
	1021 TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGGCCAGCGTG 1080 	3¢
	961 GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC 1020 	3, 9
Db Ay	901 CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGGAAGCCAAAT 960 	3(
Db 48	841 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC 900 	2 8
D 4	781 AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAAA	26
) D 4	721 CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG 780	2,
о в ——		2:

S

밁

유

S

밁

S

밁

밁

중 유

8 8 8 8 8

중 유

8 B 8

음 성 음

S

8 8 8 8 8 8 8

밁

```
prcent Similarity:
st Local Similarity:
ery Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 247, Application US/10648593
Publication No. US20040106132A1
GENERAL INFORMATION:
APPLICANT: Bristol-Myers Squibb Company
TITLE OF INVENTION: IDENTIFICATION OF GENES FOR PREDICTING ACTIVITY OF COMPOUNDS THAT
TITLE OF INVENTION: INTERACT WITH AND/OR MODULATE PROTEIN TYROSINE KINASES AND/OR
TITLE OF INVENTION: PROTEIN TYROSINE KINASE PATHWAYS IN BREAST CELLS
FILE REFERENCE: D0273 NP
FILE REFERENCE: D0273 NP
CURRENT APPLICATION NUMBER: US/10/648,593
CURRENT FILING DATE: 2003-08-26
PRIOR APPLICATION NUMBER: 60/406,385
PRIOR APPLICATION NUMBER: 50/406,385
PRIOR FILING DATE: 2002-08-27
NUMBER OF SEQ ID NOS: 557
SOFTWARE: PatentIn version 3.2
SEQ ID NO 247
LENGTH: 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SULT 9
-10-648-593-247
                                                                                                                                                                                                                                                                                                                                    -10-029-345A-108_COPY_538_2532 (1-1995) x US-10-648-593-247 (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                    ignment Scores:
ed. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
ORGANISM: Homo sapiens
-10-648-593-247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         101
                           301
                                                                                 241
                                                                                                                                       181
                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   581 AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                       81
                                                                                                             61
                                                                                                                                                                   41
                                                                                                                                                                                                                        21
                                                                                                                                                                                                                                                 19
                                                                                                                                                                                                                                                                                ۲
                                                                                                          GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240
                                                                                                                                                                                                                      HisīleLeuGluAlaīleAsnīleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC 1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGGTCACGGGAAGAGTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5.84e-234
3406.00
99.85%
99.70%
94.22%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1995
                                                                                                                                                                                                                                                                                                                                                                              Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                       Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                   0011
                                                       100
                                                                                  300
  120
                           360
                                                                                                                                                                    60
                                                                                                                                                                                                                        40
                                                                                                                                                                                                                                                                                20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        640
```

중 음 중

밁 5

	1361 CTTGCAGGTTGCTGAGTTCTCTGGTTGTTTCCCTGGGCCTCGTGAAAAAATCC 120 121 LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer 140 421 ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC 480 141 THLEUVALPROTHYCYSILeSerGlnProCysLeuProValAlaAsin1leGlyProThr 160 141 THLEUVALPROTHYCHUGHYCYSGLNATGCCAGCGAAATGTCCTGCCAACAAGGAGGTGAAT 540 141 THLEUVALPROTHYCHUGHYCYSGLNATGCCAGCAATGTCTGCTAAAGCCTTCATTTCGTGTTAAATGCCAGCAAATGCCTGCTAAAGCCTTCAAAAGAAAATTTTTTTGGGAAAAAAAA
RESULT 10 US-10-072-012-679 US-10-072-012-679 IS-quence 679, Application US/10072012 Publication No. US20040033493A1 GENERAL INFORMATION: APPLICANT: Tcherney, Velizar APPLICANT: Spytek, Kimberly APPLICANT: Spytek, Kimberly APPLICANT: Batturajan, Meera APPLICANT: Batturajan, Meera APPLICANT: Haderson, David W. APPLICANT: Anderson, David W. APPLICANT: Anderson, David W. APPLICANT: Anderson, David W. APPLICANT: Anderson, David W. APPLICANT: Gerlach, Valerie APPLICANT: Grose, Valenie M. APPLICANT: Brutak, Katarzyna APPLICANT: Raebrook II, John P. APPLICANT: Rieger, Danie M. APPLICANT: Ri	Oy 1441 AGCA, Db 481 Serly Db 481 Serly Dy 1501 TCTCC Dy 1561 CTTTC Dy 1561 TCGA, For a carry For a ca

S 밁 Ş 문 Ś ₽ δ 밁 δ 밁 Ś DЬ S 돲 δ В Ş Дb Ş В δ Ъ Ş 당 S 밁 δ Д δ 밁

```
PRIOR FILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: 60/265
PRIOR APPLICATION NUMBER: 60/265
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265
PRIOR FILING DATE: 2001-01-31
PRIOR PILING DATE: 2001-01-31
PRIOR PILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265
PRIOR APPLICATION NUMBER: 60/266
PRIOR APPLICATION NUMBER: 60/26
PRIOR APPLICATION NUMBER: 60/26
PRIOR APPLICATION NUMBER: 60/26
PRIOR FILING DATE: 2001-02-05
PRIOR APPLICATION NUMBER: 60/26
PRIOR APPLICATION NUMBER: 60/26
PRIOR APPLICATION NUMBER: 60/26
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/26
PRIOR FILING DATE: 2001-02-07
PRIOR PILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/27
PRIOR PILING DATE: 2001-02-08
Remaining Prior Application da NUMBER: 67
SEQ ID NO 679
LENGTH: 690
TYPE: PRT
ORGANISM: Homo sapiens
US-10-072-012-679
                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                      ঠ
                                                                                                        음 성 음
                                                                                                                                                               ક
                                                                                                                                                                                      밁
                                                                                                                                                                                                    ð
                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                     ş
           ঠ
                                    밁
                                                 8
                                                                        문
                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                           Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                         US-10-029-345A-108_COPY_538_2532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OR PILING DATE: 2001-01-30
OR APPLICATION NUMBER: 60/265,514
OR APPLICATION NUMBER: 60/265,517
OR APPLICATION NUMBER: 60/265,517
OR PILING DATE: 2001-01-31
OR APPLICATION NUMBER: 60/265,412
OR PILING DATE: 2001-01-31
OR APPLICATION NUMBER: 60/265,395
OR FILING DATE: 2001-01-31
OR APPLICATION NUMBER: 60/266,406
OR FILING DATE: 2001-02-02
OR APPLICATION NUMBER: 60/266,767
OR PILING DATE: 2001-02-05
OR APPLICATION NUMBER: 60/266,767
OR APPLICATION NUMBER: 60/267,057
OR APPLICATION NUMBER: 60/266,975
OR APPLICATION NUMBER: 60/266,975
OR APPLICATION NUMBER: 60/267,459
OR APPLICATION NUMBER: 60/267,459
OR PILING DATE: 2001-02-08
OR APPLICATION NUMBER: 60/267,459
OR PILING DATE: 2001-02-08
 186
               481
                                      166
                                                       421
                                                                          146
                                                                                            361
                                                                                                              126
                                                                                                                                301
                                                                                                                                                    106
                                                                                                                                                                     241
                                                                                                                                                                                                                                              121
                                                                                                                                                                                                         181
                                                                                                                                                                                                                           99
                                                                                                                                                                                                                                                                 46
                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                       26
                                                                                                                                                 CGAATTCCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGCAGCTGATA
                                    ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                             5.89e-234
3406.00
99.85%
99.70%
94.22%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       data removed
                                                                                                                                                                                                                                                                                                                                         (1-1995) x US-10-072-012-679
                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       See
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       File
                                                                                                                                                                                                                                                                                                                                                             0011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Wrapper or
                                                                                                                                                                                                                                                                                                                                           (1-690)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PALM
                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                       45
                  540
                                      185
                                                       480
                                                                          165
                                                                                            420
                                                                                                               145
                                                                                                                                                    125
                                                                                                                                                                                        105
                                                                                                                                                                                                        240
                                                                                                                                                                                                                           85
                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                 65
                                                                                                                                                                                                                                                                                    120
                      δ
                                                          5
                                                                             닭
                                                                                                S
                                                                                                                      밁
                                                                                                                                    S
                                                                                                                                                      밁
                                                                                                                                                                         Ş
                                                                                                                                                                                               밁
                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                    뭐
                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                         멼
                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                               문
                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         유정
         밁
                                             밁
                                                                                                     1441
                            1561
                                                                                                                                                                              1321
                                                                                                                                                                                                                                                                                            1141
                                                                                                                                                                                                                                                                                                                                                                     1021
                                                                 1501
                                                                                                                                          1381
                                                                                                                                                                                                                 1261
                                                                                                                                                                                                                                                        1201
                                                                                                                                                                                                                                                                                                                                 1081
                                                                                   506
                                                                                                                       486
                                                                                                                                                            466
                                                                                                                                                                                                 446
                                                                                                                                                                                                                                      426
                                                                                                                                                                                                                                                                           406
                                                                                                                                                                                                                                                                                                              386
                                                                                                                                                                                                                                                                                                                                                     366
                                                                                                                                                                                                                                                                                                                                                                                        346
                                                                                                                                                                                                                                                                                                                                                                                                          961
                                                                                                                                                                                                                                                                                                                                                                                                                            326
                                                                                                                                                                                                                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
        CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC 1620
                                               SerLysArgLeuHisSerValArgThrSerSerGerGlyThrAlaGlnArgSerLeuLeu
                                                                                             AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGGTCCCTTTTA
                                                                                                                       AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                                                                GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                           AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                   GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGAGACGCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                         TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                          SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1440
                                                                                                                                                                                                                    1320
                                                                                                                                                                                                                                                                                              1200
                                                                                                                                                                                                                                                                                                                                   1140
                                                                                                                                                                                                                                                                                                                                                                                                            1020
                                                 545
                                                                                     525
                                                                                                                         505
                                                                                                                                                             485
                                                                                                                                                                                1380
                                                                                                                                                                                                   465
                                                                                                                                                                                                                                       445
                                                                                                                                                                                                                                                         1260
                                                                                                                                                                                                                                                                            425
                                                                                                                                                                                                                                                                                                                405
                                                                                                                                                                                                                                                                                                                                                     385
                                                                                                                                                                                                                                                                                                                                                                       1080
                                                                                                                                                                                                                                                                                                                                                                                          365
                                                                                                                                                                                                                                                                                                                                                                                                                              345
                                                                                                                                                                                                                                                                                                                                                                                                                                                 960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           225
```

```
Admir Y.

Steven D.

Adam R.

Acarol E. A

Lepien M.

Acarol E. A

Lepieven D.

Adam R.

Acarol E. A

Lepieven D.

Acarol E. A

Acarol E. A

Acarol E. A

Lepieven D.

Acarol E. A

Acarol E. A

Acarol E. A

Lepieven D.

Acarol E. A

Acarol E. A

Lepieven D.

Acarol E. A

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 11
US-10-072-012-703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Tchernev, Velizar
APPLICANT: Spytek, Kimberly
APPLICANT: Serhusen, Bryan
APPLICANT: Patturajan, Meera
APPLICANT: Shimkets, Richard
APPLICANT: Li Li
APPLICANT: Gangolli, Esha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 703, Applic Publication No. US20 GENERAL INFORMATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 566
                                                                                                                                                                                                                                                                                                                                                                                                Gangolli, Esha
Padigaru, Muralidhara
Anderson, David W.
Rastelli, Luca
Miller, Charles E.
Gerlach, Valerie
Taupier Jr, Raymond J.
Gusev, Vladimir Y.
Colman, Steven D.
Wolenc, Adam R.
Pena, Carol E. A.
Fluttak Vaterie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ArgserArgoluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       lysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               dinLysbroSerAspArgAlaAspSerArgArgSerTrpHisdluGluSerbroPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Zerhusen, Bryan
Patturajan, Meera
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Application US/10072012
5. US20040033493A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1680
                                                                                                밁
                                                                                                                       Ş
                                                                                                                                                         밁
                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; PRIOR FILING DATE: 2001-02-05; PRIOR APPLICATION NUMBER: 60/267,057; PRIOR FILING DATE: 2001-02-07; PRIOR APPLICATION NUMBER: 60/266,975; PRIOR APPLICATION NUMBER: 60/267,459; PRIOR FILING DATE: 2001-02-07; PRIOR APPLICATION NUMBER: 60/267,459; PRIOR FILING DATE: 2001-02-08; PRIOR FILING DATE: 2001-02-08; NUMBER OF SEQ ID NOS: 1391; SOFTWARE: Patentin Ver. 2.1; SOFTWARE: Patentin Ver. 2.1; SEQ ID NO 703; LENGTH: 690; TYPE: PRT
                                                                                                                                                                                                                뫄
                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                      맑
                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                        뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-108_COPY_538_2532 (1-1995) x US-10-072-012-703 (1-690)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                No.:
                                     246
                                                                                                                         601
                                                                                                                                                       206
                                                                                                                                                                                   541
                                                                                                                                                                                                                 186
                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                           166
                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                      146
                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                126
                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                        106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                   ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                    CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                        ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuMet
                                                                                                                                                                                                                                                                                                                  CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC 420
                                                                                                                                                                                                                                                                                                                                                                           GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                   CysSerGiniysValValValTyrAspGlnSerSerGinAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5.89e-234
3406.00
99.85%
99.70%
94.22%
                                                                           LeuArgValProValAsnAspSerPheCysGluLysileLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      removed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              See File Wrapper or PALM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0011
                                                                             245
                                                                                                          660
                                                                                                                                     225
                                                                                                                                                                    600
                                                                                                                                                                                                 205
                                                                                                                                                                                                                                                          185
                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                    165
                                                                                                                                                                                                                                                                                                                                                                              145
                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                      125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
```

뭐 Ş

S

S

밁

S

밁

В

ð

8 밁 δ 밁 ঠ 밁 S 밁 δ 밁 Ş 밁 S 밁 ક 밁 δ В ঠ 밁 ঠ 밁 S 밁 δ 밁

밁

```
APPLICANT: Zhou, Yihua

APPLICANT: Kovalic, David K.
APPLICANT: Kovalic, David K.
APPLICANT: Tabaska, Jack E
APPLICANT: Tabaska, Jack E
APPLICANT: Tabaska, Jack E
ITILE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
ITILE OF INVENTION: Plants and Uses Thereof for Plant Improvement
CURRENT APPLICATION NUMBER: US/10/425,114
                                                                                                                                                                                                                                                                                                                                                                                Score:
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                 S
                                               밁
                                                                        ঠ
                                                                                                           밁
                                                                                                                                  ş
                                                                                                                                                                   밁
                                                                                                                                                                                              δ
                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                               US-10-029-345A-108_COPY_538_2532 (1-1995) x US-10-425-114-54204 (1-690)
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Alignment Scores:
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Homo sapiens
FEATURE:
OTHER INFORMATION: Clone ID: LIB4119-028-H6_FLI.pep
US-10-425-114-54204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1801 CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCTTTGAA
                  301
                                               106
                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .981 ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          626
                                                                                                                                       181
                                                                                                                                                                                                 121
                                                                                                           86
                                                                                                                                                                   66
                                                                                                                                                                                                                               46
                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                        GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                             AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                       GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5.89e-234
3406.00
99.85%
99.70%
94.22%
                                                                                                                                                                                                                                                                                                                                                                                             Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                   663
1
1
0
                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1860
                                                                                                           105
                                                                                                                                                                      85
                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1920
                                                                                                                                                                                                                                 65
                                                                                                                                                                                                                                                                                           $
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           With
```

```
GATAAGGAAGGAAGCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                            AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                            SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                          AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                    TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGGCCAGCGTG
                                                                                                                                                                                                                                                     GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC 1020
                                                                                                                                                                                                                                                                                      ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                          IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysileLysAsn
                                                                                                                                                                                                                                                                                                                                                                                            CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                              ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                {\tt AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu}
                           1440
                                                             1380
                                             485
                                                                                              1320
                                                                                                                445
                                                                              465
                                                                                                                                 1260
                                                                                                                                                  425
                                                                                                                                                                   1200
                                                                                                                                                                                                    1140
                                                                                                                                                                                                                                      1080
                                                                                                                                                                                   405
                                                                                                                                                                                                                     385
                                                                                                                                                                                                                                                                                        345
                                                                                                                                                                                                                                                                                                         960
                                                                                                                                                                                                                                                                                                                          325
                                                                                                                                                                                                                                                                                                                                          900
                                                                                                                                                                                                                                                                                                                                                           305
                                                                                                                                                                                                                                                                                                                                                                            840
                                                                                                                                                                                                                                                                                                                                                                                             285
                                                                                                                                                                                                                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                                                                                                                                                                                               265
                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                               245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       145
APPLICANT: Spytek, Kimberly
APPLICANT: Patturajan, Meera
APPLICANT: Shimkets, Richard
APPLICANT: Shimkets, Richard
APPLICANT: Anderson, David M.
APPLICANT: Radigaru, Muralidhara
APPLICANT: Ratellii, Luca
APPLICANT: Ristellii, Luca
APPLICANT: Miller, Charles E.
APPLICANT: Gusev, Charles E.
APPLICANT: Gusev, Vladimir Y.
APPLICANT: Gusev, Vladimir Y.
APPLICANT: Gusev, Vladimir Y.
APPLICANT: Houser Adam R.
APPLICANT: Pena, Carol E. A
APPLICANT: Gusee, William M.
APPLICANT: Alsobrook II, John P.
APPLICANT: Alsobrook II, John P.
APPLICANT: Rieger, Daniel K.
APPLICANT: Burgess, Catherine E.
TITLE OF INVENTION: Proteins and Nucleic Aci
FILE REFERENCE: 21402-258
CURRENT APPLICATION NUMBER: US/10/072,012
                                                                                                                                                                                                                                                                  RESULT 13
US-10-072-012-681
                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                멍
                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                    Д
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                     Sequence 681, Application No. US20.
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                               1921
                                                                                                                                                                                                                                                                                                                                                                                1861
                                                                                                                                                                                                                                                                                                                                                                                                                  1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                   1741
                                                                                                                                                                                                                                                                                             686
                                                                                                                                                                                                                                                                                                                               666
                                                                                                                                                                                                                                                                                                                                                                646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1621
                                                                                                                                                                                                                                                                                                                                                                                                 626
                                                                                                                                                                                                                                                                                                                                                                                                                                  909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        546
                                                                                                                                                                                                                                                                                         AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 1980
                                                                                                                                                                                                                                                                                                                                                                                       TGGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC 1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCTCCACTGCATCGAAGTGGGAGGGTGGAGGACAATTACCACAGCTACCTTTTTCGGC 1560
                                                                                                                                                                                                                                               Application US/10072012
o. US20040033493A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1995
                           Acids
                        Encoding
                         Same
```

1860

645

1800

625

1740

565

605

Ś 밁 Ś ₽ Ś 망 Ś В δ 밁 Ś 밁 Ş 밁 Ś Д Ś Ъ Ş 멍 Ş В Ş 4 Ş 멍 δ В 5 뮍 S Вb δ 뭐 δ В

1381

1321

1261

446

1201

426

1141

406

1081

366

386

1021

346 961 326

306

781

721 246 661 226 601 206

186 481 166 421

```
IOR APPLICATION NUMBER: 60/265,1v...
IOR FILING DATE: 2001-01-30
IOR APPLICATION NUMBER: 60/265,514
IOR FILING DATE: 2001-01-31
RIOR APPLICATION NUMBER: 60/265,517
RIOR PILING DATE: 2001-01-31
RIOR APPLICATION NUMBER: 60/265,412
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,395
PRIOR APPLICATION NUMBER: 60/266,406
PRIOR FILING DATE: 2001-02-02
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/267,057
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR PILING DATE: 2001-02-08
PRIOR PILING DATE: 2001-02-08
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR PILING DATE: 2001-02-08
PRIOR PILING DATE: 2001-02-08
PRIOR PILING DATE: 2001-02-09
PRIOR PILING DATE: 2001-02-08
PRIOR PILING DATE: 2001-02-09
PRIOR PIL
                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                유 3
                                                                                                                       음 성
                                                                                                                                                                         밁
                                                                                                                                                                                          S
                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                      5
                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alignment Scores: Score:
                                    밁
                                                        ð
                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                   ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-072-012-681
                                                                                                                                                                                                                                                                                                                                                                                                         US-10-029-345A-108_COPY_538_2532 (1-1995) x US-10-072-012-681 (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER PACE
SOFTWARE: PACE
SEQ ID NO 681
SUGTH: 665
                                                                                                    361
                                                                                                                                                   301
                                                                                                                                                                                                241
               481
                                                          421
                                                                                 121
                                                                                                                               101
                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                          81
                                                                                                                                                                                                                        19
                                                                                                                                                                                                                                                                    41
                                                                                                                                                                                                                                                                                                                  21
                                                                                                                                                                                                                                                                                                                                       13
                                                                                                                                                                                                                    GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                              CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                    GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                        1.84e-233
3399.00
99.70%
99.55%
94.02%
                                                                                                                                                                                                                                                                                                                                                                                                                                Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          See
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          File
                                                                                                                                                                                                                                                                                                                                                                                                                                 Wrapper
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          유
              540
                                                            480
                                                                                                        420
                                                                                                                                                                                                300
                                                                                                                                                                                                                       80
                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                 40
                                    160
                                                                                 140
                                                                                                                               120
                                                                                                                                                   360
                                                                                                                                                                          100
                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                             20
                   S
                                                밁
                                                                   δ
                                                                                            g
                                                                                                            S
                                                                                                                                       밁
                                                                                                                                                       5
                                                                                                                                                                                   뫄
                                                                                                                                                                                                       S
                                                                                                                                                                                                                                망
                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                  1441
                                                                                                                                                                                                                                                                                                                                                   1141
                                                                                                                                                                                                                                                                                                                                                                                                                                            1021
                         1561
                                                                                                                                                               1381
                                                                                                                                                                                                           1321
                                                                                                                                                                                                                                                        1261
                                                                                                                                                                                                                                                                                                     1201
                                                                                                                                                                                                                                                                                                                                                                                               1081
   521
                                                501
                                                                                            481
                                                                                                                                         461
                                                                                                                                                                                     441
                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                              401
                                                                                                                                                                                                                                                                                                                             381
                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                      341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           161
  GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                    SerGlyLeuH15LeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                         ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                     GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGCAGAATGGGATTGGTTATATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LeuIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuMet
                                                                                                                  1500
                          1620
                                                                        1560
                                                 520
                                                                                                                                                               1440
                                                                                                                                                                                                            1380
                                                                                                                                                                                                                                   440
                                                                                                                                                                                                                                                          1320
                                                                                                                                                                                                                                                                                                      1260
                                                                                                                                                                                                                                                                                                                                                    1200
                                                                                                                                                                                                                                                                                                                                                                                                                                             1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1020
    540
                                                                                             500
                                                                                                                                          480
                                                                                                                                                                                      460
                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                             400
                                                                                                                                                                                                                                                                                                                                                                           380
                                                                                                                                                                                                                                                                                                                                                                                                 1140
                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           720
```

```
APPLICANT: HIO, YUKI
APPLICANT: OTSUKA, KAORU
I APPLICANT: NAGAI, KEIICHI
I APPLICANT: IRIE, KYOTAKO
I APPLICANT: TAMECHIKA, ICHIRO
APPLICANT: TAMECHIKA, ICHIRO
APPLICANT: TAMECHIKA, ICHIRO
APPLICANT: YOSHIKAWA, TSUTOMU
APPLICANT: VOSHIKAWA, TSUTOMU
APPLICANT: WASUHO, YASUHIKO
TITLE OF INVENTION: NOVEL FULL-LENGTH CDNA
CURRENT APPLICATION NUMBER: US/10/094,749
CURRENT FILING DATE: 2002-03-12
PRIOR APPLICATION NUMBER: JP 2004,749
CURRENT FILING DATE: 2002-03-12
PRIOR APPLICATION NUMBER: JP 2001-328381
PRIOR FILING DATE: 2001-09-14
SOFTWARE: PATOR DATE: 2001-09-14
SOFTWARE: PATOR SEQ ID NOS: 3381
SOFTWARE: PATOR SEQ ID NOS: 3381
SOFTWARE: PATOR SEQ ID NOS: 3381
SOFTWARE: PATOR STATE HOMO
CRGANISM: Homo sapiens
US-10-094-749-2312
             Percent Similarity:
Best Local Similarity:
                                    Score:
                                         Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 14
US-10-094-749-2312
                                                                                                                                                                                                                                          APPLICANT: ISOGAI,
APPLICANT: SUGIYANA
APPLICANT: OTSUKI,
APPLICANT: WAKAMATE
APPLICANT: SATO, HI
APPLICANT: SATO, HI
APPLICANT: YAMAMOTE
APPLICANT: HIO, YUH
APPLICANT: OTSUKA,
APPLICANT: NAGAI, K
APPLICANT: IRIE, RY
APPLICANT: TAMECHIK
APPLICANT: SEKI, NA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              맑
                                                                                                                                                                                                                                                                                                                                                                                   Sequence 2312, Application US/10094749
Publication No. US20030219741A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1801
                                                                                                                                                                                                                                                                                                                                                                                                                                          1981 ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                       WAKAMATSU, AI
SATO, HIROYUKI
ISHII, SHIZUKO
YAMAMOTO, JUN-ICHI
ISONO, YUUKO
                                                                                                                                                                                                                                                                                              ISONO,
YURI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGTTTTCGGGCAGCATGGAA 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC 1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OTSUKI, TETSUJI
                                                                                                                                                                                                                                                                                                                                                                  SUGIYAMA, TOMOYASU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.84e-233
3399.00
99.70%
99.55%
        Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1680
                                               B
                                                               Ś
                                                                                     밁
                                                                                                   5
                                                                                                                          밁
                                                                                                                                        Ó
                                                                                                                                                              В
                                                                                                                                                                               Ś
                                                                                                                                                                                                   뫄
                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                             맑
                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-029-345A-108_COPY_538_2532 (1-1995) x US-10-094-749-2312 (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match:
DB:
           321
                            196
                                               301
                                                                901
                                                                                    281
                                                                                                     841
                                                                                                                          261
                                                                                                                                           781
                                                                                                                                                              241
                                                                                                                                                                                721
                                                                                                                                                                                                    221
                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                        201
                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                   161
                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                        141
                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      81
GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGAGCGCCCTCAGTCCACCC 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                     41
                                                                         ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGAAGAAC 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrileAlaIleAlaTyrIleMet
                                                                                                                                                                ATCCCCGAGTCTCATTTCCTGCGTGTGTGTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                        CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                                   GlnGlnAsnGlyTleGlyTyrValLeuAsnAlaSerAsnThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                              CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                             LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                        AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                   GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HisileLeuGluAlaileAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           94
15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .02%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            00
                                      320
                                                        960
                                                                                                                280
                                                                                                                                   840
                                                                                                                                                     260
                                                                                                                                                                       780
                                                                                                                                                                                                                                220
                                                                                                                                                                                                                                                  660
                                                                                                                                                                                                                                                                     200
                                                                                                                                                                                                                                                                                       600
                                                                                                                                                                                                                                                                                                                                                                                    140
                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20
```

S 占

밁

Ş В Ś 밁

밁

र् 밁 5 밁 S

1201

401

1261

421

1141

361

381

```
RESULT 15

US-10-072-012-258

; Sequence 258, Application US/10072012

; Publication No. US20040033493A1

; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                             GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IleIleGluValSer
                                                                                                                                    ATCATTGAGGTCTCC
                                                                                                                                                                             LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                                                                           AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                           GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                                             CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCGGATATCTTGGCCCCCCAGACCTCTACCCCTTCCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAGCTATGCCAGTTCTCCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerSerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1995
                                                                                                            665
                                                                                                                                                                                                                   1980
                                                                                                                                                                                                                                                                                        1920
                                                                                                                                                                                                                                                                                                                                                               1860
                                                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                                                                                  1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1320
                                                                                                                                                                                                                                                      640
                                                                                                                                                                                                                                                                                                                           620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                               660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1080
                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
Query Match:
DB:
 밁
                            Ś
                                                                      밁
                                                                                                    ð
                                                                                                                                                                                                                                                                                                                         ; TYPE: PRT ; ORGANISM: Homo sapiens US-10-072-012-258
                                                                                                                                      US-10-029-345A-108_COPY_538_2532 (1-1995) x US-10-072-012-258
                                                                                                                                                                                                                                                      Score:
                                                                                                                                                                                                                                                                                        Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/10/072,012
CURRENT FILING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: 60/265,102
PRIOR FILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR FILING DATE: 2001-01-31
PRIOR PILING DATE: 2001-01-31
PRIOR PILING DATE: 2001-01-31
PRIOR FILING DATE: 2001-01-31
PRIOR FILING DATE: 2001-01-31
PRIOR PILING DATE: 2001-01-31
PRIOR FILING DATE: 2001-01-31
                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: PatentIn
SEQ ID NO 258
LENGTH: 662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR
PRIOR
PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Grosse, William M.
APPLICANT: Alsobrook II, John P.
APPLICANT: Lepley, Denise M.
APPLICANT: Rieger, Daniel K.
APPLICANT: Burgess, Catherine E.
TITLE OF INVENTION: Proteins and Nucleic Acids
FILE REFERENCE: 21402-258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Tchernev, Velizar
APPLICANT: Spytek, Kimberly
APPLICANT: Zerhusen, Bryan
APPLICANT: Patturajan, Meer
                                                                                                                                                                                                                                                                                                                                                                                                                                    Remaining Prior Application data NUMBER OF SEQ ID NOS: 1391
                                                                                                                                                                                                                                                                         No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IOR FILING DATE: 2001-01-31
IOR APPLICATION NUMBER: 60/265,395
IOR FILING DATE: 2001-01-31
IOR APPLICATION NUMBER: 60/266,406
IOR FILING DATE: 2001-02-02
IOR APPLICATION NUMBER: 60/266,767
IOR APPLICATION NUMBER: 60/266,767
IOR FILING DATE: 2001-02-05
IOR APPLICATION NUMBER: 60/267,057
IOR FILING DATE: 2001-02-07
IOR APPLICATION NUMBER: 60/266,975
IOR APPLICATION NUMBER: 60/266,975
IOR APPLICATION NUMBER: 60/267,459
IOR APPLICATION NUMBER: 60/267,459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE: 2001-02-08
   2
                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Padigaru, Muralidhara
Anderson, David W.
Rastelli, Luca
Miller, Charles E.
Gerlach, Valerie
Taupier Jr, Raymond J.
Gusev, Vladimir Y.
Colman, Steven D.
Wolenc, Adam R.
Pena, Carol E. A
Furtak, Katarzyna
Grosse, William M.
Alsbbrook II, John P.
ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Shimkets, Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Zerhusen, Bryan
Patturajan, Meera
                                                                                                                                                                                                                                                                                                                                                                                                                   Ver.
                                                                                                                                                                             4.5e-232
3379.50
99.40%
99.25%
99.25%
12
                                                                                                                                                                                                                                                                                                                                                                                                                                                      removed - See File.Wrapper or PALM
                                                                                                                                                                             Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                  Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Encoding
                                                                                                                                                                               662
1
1
1
3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Same
                                                                                                                                             (1-662)
     40
                                     120
                                                                        20
                                                                                                            6
```

S

1621

밁 ð 밁 S 밁 S 문 S 밁 ð 밁 S 밁

521

1561

501

1501

1441

481

1381

461

1321

441

밁

541

1741

561

581

밁 ş 밁 ঠ 밁 S В S 밁 ð

1861

621

601

1981

밁

1021 THISCOGACTCTGCTACCTCAGAGGCAGCAAGACAAGACCAGGCCGTGCATCCCGCCAGCGTG 1080	841 ATATCTCCAAACTTCAAATTTTCTGGGCCAACTCCTGGACTATGGAAGAAGATTAAGAAC 96	1 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAATTTTG 66	CAGCAGAATTGGATTGGT	21 CACA7
9 2 7	960	66 22 72 78 84 84	148 148 16 16 18 18	18 60 24 80 30 10

B 8 8

DЬ	Ϋ́	дь	Qy	DЬ	γQ	DЪ	Qγ	рь	γQ	Db	Qy	Db	Ş	DЬ	.QV	ДЪ	Qy	Db	Qγ	DЬ	Ş	DЪ	ρŞ	Дb	Ş	ф	γ9
658 IleileGluValSer 662	1 ATCATTGAGGTCTCC 1	638 ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu 657	1921 AGGTCACGGGAAGAGCTGGGGAAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCAGCATGGAA 1980	618 LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn 637	1861 AAGCAGTTTAAACGCAGAAACTGCCAAATGGAATTTTGGAGAGAGCATCATGTCAGAGAAC 1920	598 GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu 617	1801 CAGAAGCCAAGTGACAGAGCTGACTCGCGGGCGGAGCTGGCATGAAGAGAGAG	578 AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg 597	1741 GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG 1800	558 ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer 577	1681 ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT 1740	538 SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla 557	1621 TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC 1680	518 LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis 537	1561 CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC 1620	498 SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly 517	1501 TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACCACCAGCTTCCTTTTCGGC 1560	478 SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu 497	1441 AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGCGGCCCCAGGAGGTCCCTTTTA 1500	458 AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln 477	1381 GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCCAGGCCTTCAGACAGCCAG 1440	438 LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro 457	1321 AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT 1380	418 SerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn 437	1261 TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC 1320	398 SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe 417	1201 TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCATCCTTACATGGCTTC 1260

Search completed: June 21, 2004, 13:05:33 Job time: 143.902 secs

```
Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -MODEL-frame+ n2p.model -DEV=xlp
-Q=/Cgn2 1/USPTO_spool_p/US10029345/runat_21062004_122816_4233/app_query.fasta_1.3278
-Q=/Cgn2 1/USPTO_spool_p/US10029345/runat_21062004_122816_4233/app_query.fasta_1.3278
-DB=Issued_patence_AA -QFMT=fastan -SUPFIX=rai -MINMATCH=0.1 -LOOPCL=0
-LOOPEXT=0 -UNITS=bits -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi
-LIST=45 -DOCALIGN=200 -THR_SCORE=pct -THR_MAX=100 -THR_MIN=0 -ALIGN=15
-MODEL-CCAL -OUTFMT=pto -NORM=ext -HRAPSIZE=500 -MILEN=0 -MAXLEN=200000000
-USER=US10029345_@CGN 1 145_@runat_21062004_122816_4233 -NCPU=6 -ICPU=3
-NO_MMAP -LARGEQUERY -NEG_SCORES=0 -WALT -DSPBLOCK=100 -LONGLOG
-DSV_TIMEOUT=120 -WARN_TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPOP=6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     command line parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                             Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      88
                                                                                                                                                                                              3406
654.5
                                                                                                                                                                                                                                                     Score
                                                                                                                                    654.5
654.5
                                                                                                                                                                          654.5
     469
455
455
455
455
457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein search, using frame_plus_n2p model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Xgapop 10.0 ,
Ygapop 10.0 ,
Fgapop 6.0 ,
Delop 6.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 June 21, 2004, 12:28:26 ; Search time 25.4447 Seconds (without alignments) 8095.510 Million cell updates/sec
                                                                                                                                                                                                                                               Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                      Issued_Patents_AA:*

1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*

2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*

3: /cgn2_6/ptodata/2/iaa/6A_COMB.pep:*

4: /cgn2_6/ptodata/2/iaa/6B_COMB.pep:*

5: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*

6: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-029-345A-108_COPY_538_2532
3615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   389414 seqs, 51625971 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BLOSUM62
     94.2
18.1
18.1
18.1
13.0
12.6
12.6
12.6
12.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        atggcccatgagatgattgg.....tggaaatcattgaggtctcc 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Match 100%
first 45 summaries
     GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                       DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Xgapext
Ygapext
Fgapext
Delext
US-09-816-494-2
US-09-544-716-14
US-09-557-921-15
US-09-6519-380-16
US-09-619-380-16
US-09-702-705-805
US-09-7136-457-805
US-09-614-124B-805
US-09-6314-124B-805
US-09-689-184-805
US-09-589-184-805
US-09-589-184-805
US-09-589-184-805
                                                                                                                                                                                                                                                     급
                                                                                                                                                                                                                                                                                                             SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0.5
7.0
7.0
                 Sequence 17, Appl
Sequence 16, Appl
Sequence 2, Appl:
Sequence 805, App
                                                                                                                                                                                                                                                   Description
                                                                                                                                                                        Sequence 2, Appli
Sequence 14, Appl
Sequence 15, Appl
```

45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13
\vdash	\vdash	\vdash	\vdash	319	_	38.	38.	38.	338.5	46.	46.	46.	46.	σ	7	377	377	7	377		409	409		420	N	433		447	447			447
				8.8		•	•	•		•		9.6		•	10.4	•	10.4	•	•	10.9	•	•	11.3	•	•	•	•	•	•	•	12.4	•
168	168	169	169	169	169	170	170	170	170	168	168	168	168	397	302	302	302	302	302	393	314	314	313	367	314	367	395	394	394	394	394	394
4	4	4	4	4	4	4	4	4	4	4	4	4	4.	N	4	4	4	4.	4	N	4.	ω	N	N	4.	N	N	4	4	4	4.	4.
-09-557-921-1	-09-544-716-1	-09-619-380-1	-09-564-357-1	-09-557-921-	-09-544-716-1	-09-619-380-1	-09-564-357-1	-09-557-921-1	-09-544-716-1	-09-619-380-1	-09-564-357-1	-09-557-921-	-09-544-716-1	-08-990-379-	-09-589-184-	71-325-	-09-614-124E	-09-736-457-	-09-702-705-80	8-990-379-	21-4	-09-164-193-	6	30-290-2	-09-371-6	-08-990-379-	-08-990-3	9-589-184-	US-09-671-325-827	-09-614-124B-	US-09-736-457-827	9-702-705-8
е 16, Арр	equence 15,	e 18, App	equence 19, App	equence 17, App	nce 16,	e 14, App	e 15, App	e 12, App	e 12,	e 15,	e 16,	e 13,	e 13,	8	equence 806	908	908	e 806	equence 806	е4,	equence 22,	equence 22,	equence 7,	e 24,	equence 11,	e 6,	e 5,	e 827	nce 827	nce 827	e 827	nce 827

ALIGNMENTS

```
S
                                                US-10-029-345A-108_COPY_538_2532 (1-1995) x US-09-816-494-2 (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 1
US-09-816-494-2
                                                                                                                 Query Match:
                                                                                                                                                                          SCOLE:
                                                                                                                                                                                               Pred. No.:
                                                                                                                                                                                                             Alignment Scores:
                                                                                                                                                                                                                                                      US-09-816-494-2
                                                                                                                                    Best Local Similarity:
                                                                                                                                                        Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 2, Application US/09816494

Patent No. 6664089

GENERAL INFORMATION:
APPLICANT: Meyers, Rachel A.
TITLE OF INVENTION: 38692 AND 21117, NOVEL DUAL SPECIFICITY
TITLE OF INVENTION: PHOSPHATASE MOLECULES AND USES THEREFORE
                                                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS: 10
SOFTWARE: FRHUSEQ for Windows Version 4.0
SEQ ID NO 2
LENGTH: 665
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/816,494
CURRENT FILING DATE: 2001-03-23
PRIOR APPLICATION NUMBER: US 60/191,858
PRIOR FILING DATE: 2000-03-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILE REFERENCE: 10448-030002
                                                                                                                                                                                                                                                                      ORGANISM: Homo sapiens
1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                               7.74e-300
3406.00
99.85%
99.70%
94.22%
                                                                                                                 Conservative: Mismatches: Indels:
                                                                                                                                                                      Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AND USES THEREFOR
                                                                                                 000
```

밁

61 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120

1 MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu

	21 SHILLIHI III III III III III III III III
RESULT 2 US-09-544-716-14 i Sequence 14, Application US/09544716 i Patent No. 6492157; GENERAL INFORMATION: APPLICANT: Luche, Ralf M. APPLICANT: Wei, Bo ITILE OF INVENTION: DSP-9 DUAL-SPECIFICITY PHOSPHATASE CURRENT APPLICATION NUMBER: US/09/544,716 CURRENT FAIRG DATE: 2000-04-10 INUMBER OF SEQ ID NOS: 20 SOFTWARE: FastSEQ for Windows Version 4.0 LENGTH: 170	Db 381 SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe 400 Oy 1201 TCTCTCGGAAATCAATTCAGTTCATATTCAGCCAGCATCCTTACATTCGTTCACTAGTAGTCCTTCACTTCAGTTCGTTC

Ş DЬ Ś 뭥 Ś ₽ Ş 밁 Ş 밁 Ś В Ś B Ś 뭐 Ś В Ś В Ś DЬ Ş 뫄 Ş В Ş 뮍 Ş B Ś д Ş

```
Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; TYPE: PRT
; ORGANISM: Homo
US-09-544-716-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                            문
                                                                                                                                                                                                                                                                                                                                                                                ঠ
                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-029-345A-108_COPY_538_2532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                    US-09-557-921-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
Percent Similarity:
                                     Alignment Scores:
                                                                                      SOFTWARE: F
SEQ ID NO 15
LENGTH: 170
TYPE: PRT
                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                       Sequence 15,
                                                                                                                                                                                                                                               Patent No. 6551810
                                                                                                                                      PILE REFERENCE: 200125.416
CURRENT APPLICATION NUMBER: US/09/557,921
CURRENT FILING DATE: 200-04-20
NUMBER OF SEQ ID NOS: 20
                                                                                                                                                                                   APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
TITLE OF THE TOTAL DEP-10 DUAL-SPECIFICITY PHOSPHATASE
                                                                            ORGANISM: Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity:
                          No.:
                                                                                                                                                                                                                                                                                                                                    877 GACTATGAGAAGAAGATTAAG 897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     517 GATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTTATGTGTTTAAATGCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  457 CCTGTTGCCAACATTGGGCCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     400 GGCCTCTGTGAAGGAAAA---TCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 AsnSerCysProLysProAspPhelleCysGluSerArgPheMetArgValProlleAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            170
                                                                                                                                                                                                                                                                                                                                                                                                               FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                           GluTyrGluArgThrLeuLys
                                                                                                                                                                                                                                                                                                                                                            PheValLysAspArgArgProSerIleSerProAsnPheAsnPheLeuGlyGlnLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                      TTTGTGAAAGAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AspValLeuAsnLysAspLeuMetThrGlnAsnGlyIleSerTyrValLeuAsnAlaSer
                                                                                                                                                                                                                                                         Application US/09557921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sapiens
                                                                            sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6.75e-51
654.50
88.62%
72.46%
18.11%
6.75e-51
654.50
88.62%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (1-1995) x US-09-544-716-14 (1-170)
                                                                                                                                                                                                                                                                                                            167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches:
Indels:
  170
121
27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   516
                                                                                                                                                                                                                                                                                                                                                                                        876
                                                                                                                                                                                                                                                                                                                                                                                                                  140
                                                                                                                                                                                                                                                                                                                                                                                                                                           816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
                                                                                                                                                                                                                                                                                                                                                                160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 636
```

```
; LENGTH: 170
; TYPE: PRT
; ORGANISM: Homo s
US-09-564-357-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity: Query Match:
DB:
                                                                            Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   믕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-029-345A-108_COPY_538_2532 (1-1995) x US-09-557-921-15 (1-170)
               Ś
                                      US-10-029-345A-108_COPY_538_2532 (1-1995) x US-09-564-357-17 (1-170)
                                                                                                                                                                                                                                                                                                                                                                                       US-09-564-357-17
                                                                                                                                             Alignment Scores:
                                                                                                                                                                                                                        FILE REFERENCE: 200125.413
CURRENT FILING NUMBER: US/09/564,357
CURRENT FILING DATE: 2000-04-24
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 17
                                                                                                                                                                                                                                                                                                                                                             Sequence 17, Appli
Patent No. 6645753
                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                   APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
TITLE OF INVENTION: DSP-5 DUAL-SPECIFICITY PHOSPHATASE
                                                                                                                                   No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              400 GGCCTCTGTGAAGGAAAA---TCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             457
                                                                                                                                                                                                                                                                                                                                                                                                                            :::||||||::: :::|||
161 GluTyrGluArgThrLeuLys 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 AsnSerCysProLysProAspPheIleCysGluSerArgPheMetArgValProIleAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACTATGAGAAGAAGATTAAG 897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGCCTCTGTGAAGGAAAA---TCCACTCTAGTCCCTACCTGCATTTTCTCAGCCTTGCTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AlaLysLeuSerSerCysGlnValIleValHisCysLeuAlaGlyIleSerArgSerAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PheValLysAspArgArgProSerIleSerProAsnPheAsnPheLeuGlyGlnLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTTGTGAAAGAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCCAACTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ThrileAlaIleAlaTyrIleMetLy8ThrMetGlyMetSerSerAspAspAlaTyrArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AspvalLeuAsnLysAspLeuMetThrGlnAsnGlyIleSerTyrValLeuAsnAlaSer
                                                                                                                                                                                                                                                                                                                                                                        Application US/09564357
                                                                                                                                                                                    sapiens
                                                                                                                                                                                                                                                                                                                                 Ralf M.
                                                                              6.75e-51
654.50
88.62%
72.46%
18.11%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 72.46%
18.11%
                                                                               Conservative: Mismatches: Indels:
                                                                                                                     Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches:
                                                                     170
121
27
18
1
                   456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20
```

```
밁
                                                                                                                                                                                                                                                                   GENERAL INFORMATION:

APPLICANT: Luche, Ralf M.

APPLICANT: Luche, Ralf M.

APPLICANT: Luche, Ralf M.

ITITLE OF INVENTION: DSP-11 DUAL SPECIFICITY PHOSPHATASE

FILE REFERENCE: 200125, 418

CUURARY APPLICATION NUMBER: US/09/619,380

CURRENT FILING DATE: 2000-07-19

INUMBER OF SEQ ID NOS: 22

SOFTWARE: FRASESEQ for Windows Version 4.0

LENGTH: 170
                                                                     Ş
                                                                                            밁
                                                                                                               Ś
                                                                                                                   US-10-029-345A-108_COPY_538_2532 (1-1995) x US-09-619-380-16 (1-170)
                                                                                                                                                           Query
DB:
                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                       ; TYPE: PRT
; ORGANISM: Homo
US-09-619-380-16
                                                                                                                                                                                                                     Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 5
US-09-619-380-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                 멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                       Sequence 16, Appli
Patent No. 6649391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             日
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                  Match:
                            517
                                                                    457
                                                21
                                                                                          μ
                                                                                                                                                                                                                                                                                                                                                                                                                                      161 GluTyrGluArgThrLeuLys 167
GATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                            CCTGTTGCCAACATTGGGCCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         637
                                                                                      GGCCTCTGTGAAGGAAAA---TCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTA 456
                              ||||||
|ProValProSerValGlyLeuThrArgIleLeuProHisLeuTyrLeuGlySerGlnLys
                                                                         GlyLeuCysGluGlyLysProAlaAlaLeuLeuProMetSerLeuSerGinProCysLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  517 GATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21
                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACTATGAGAAGAAGATTAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTTGTGAAAGAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PhevalLysAspArgArgProSerIleSerProAsnPheAsnPheLeuGlyGinLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ThrilealailealatyrileMetLysThrMetGlyMetSerSerAspAspAlaTyrArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCATCGCTATCGCCTACATCATGAAGAGGGATGGACATGTCTTTAGATGAAGCTTACAGA 816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ||||||
|AlaLysLeuSerSerCysGlnValIleValHisCysLeuAlaGlyIleSerArgSerAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCC
                                                                                                                                                                                                                                                                                                                                                                                              Application US/09619380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AspAsnTyrCysGluLysLeuLeuProTrpLeuAspLysSerIleGluPheileAspLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAA 696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AsnSerCysProLysProAspPheIleCysGluSerArgPheMetArgValProIleAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ||||||
|ProValProSerValGlyLeuThrArgIleLeuProHisLeuTyrLeuGlySerGlnLys 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCTGTTGCCAACATTGGGCCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGA 516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         {\tt GlyLeuCysGluGlyLysProAlaAlaLeuLeuProMetSerLeuSerGlnProCysLeu}
                                                                                                                                                                                                                                                   sapiens
                                                                                                                                                           6.75e-51
654.50
88.62%
72.46%
18.11%
                                                                                                                                                                                                                                                                                                                                                                                                                                                              897
                                                                                                                                                          Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                 170
121
27
18
                                 40
                                                     516
                                                                          20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            576
                              밁
                                              Ś
                                                                      밁
                                                                                        Ş
                                                                                                              뭐
                                                                                                                                 Ş
                                                                                                                                                        뮍
                                                                                                                                                                           Ş
                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                         Pred. No.:
                                                                                                                                                                                                                                                                                 Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 6
US-09-557-921-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뭥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   41
```

```
FILE REFERENCE: 200125.416
CURRENT APPLICATION NUMBER: US/09/557,921
CURRENT FILING DATE: 2000-04-20
NUMBER OF SEQ ID NOS: 20
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 2
LENGTH: 482
TYPE: PRT
ORGANISM: Homo sapiens
US-09-557-921-2
                                                                                                                                                                                                                                                                  US-10-029-345A-108_COPY_538_2532 (1-1995) x US-09-557-921-2 (1-482)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 2, Application US/09557921
Patent No. 6551910
GENERAL INFORMATION:
APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
313 ACTGTACTTCTGGGGTAAACTGGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGG
                                                                                                                                                                                                         877 GACTATGAGAAAGAATTAAG 897
:::||||||:::::::||
161 GlufyrGluArgThrLeuLys 167
                                      697 GCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCC
                                                                                             LeuAspieuileSerCysArgGluGlyLysAspSerPheLysArgIlePheSerLysGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  101 AlaLysLeuSerSerCysGlnValIleValHisCysLeuAlaGlyIleSerArgSerAla
                                                                                                                       ACAGAGCTCATCCAG---CATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAAG 252
                                                                                                                                                     HisīleAsnCysAlaAspLysIleSerArgArgArgLeuGlnGlnGlyLysIleThrVal
                                                                                                                                                                   AATATCAACTGCTCC---AAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATT 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ACCATCGCTATCGCCTACCATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGA 816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PhevalLysAspArgArgbroSerIleSerProAsnPheAsnbheLeuGlyGlnLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTTGTGAAAGAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AsnSercysbroLysbroAspPheileCysGluSerArgPheMetArgValbrolleAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TATACCTGTCCAAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AspValLeuAsnLysAspLeuMetThrGlnAsnGlyIleSerTyrValLeuAsnAlaSer 60
                                                                                                                                                                                                                                                                                                                      7.49e-34
469.00
57.72%
35.91%
12.97%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DSP-10 DUAL-SPECIFICITY PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                       Indels:
Gaps:
                                                                                                                                                                                                                                                                                                     482
107
65
96
30
               372
                                         252
                                                                                                                                                     212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                08
```

CORRAITSM: Homo sapiens US-09-702-705-805 Alignment Scores: Pred. No.: 455.00 Percent Similarity: 49.87% Conservative: 75	APPLICANT: FMAILION, DAILS APPLICANT: FMAIL IGUN TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND TITLE OF INVENTION: COMPOSITIONS OF LUNG CANCER FILE REFERENCE: 20121.478C14 CURRENT APPLICATION NUMBER: US/09/702,705 CURRENT FILING DATE: 2000-10-30 NUMBER OF SEQ ID NOS: 1833 SOFTWARE: FASESEQ for Windows Version 3.0 SEQ ID NO 805 LENGTH: 394 TYPE: PAT	RESULT 7 US-09-702-705-805 ; Sequence 805, Application US/09702705 ; Patent No. 6504010 ; GENERAL INFORMATION: ; APPLICANT: Wang, Tongtong ; APPLICANT: Lodes, Michael A. ; APPLICANT: Lodes, Michael A. ; APPLICANT: Lodes, Michael A. ; APPLICANT: Vedvick, Tom ; APPLICANT: Carter, Darrick ; APPLICANT: Carter, Marc ; APPLICANT: Retter, Marc	Oy 787 ATGGACATGTCTTTAGATGAAAGCTTACAGATTTGTGAAAGAAA	667 TIGGACAAATCAGTAGATITCATIGAGAAAGCCAAAAGCCTCCAATGGATGTGTTCTAGTG ::::::::::::::::::::::::::::::::::	Db 331 LeuGlyAsnGluGlnAspAlaGlnAspLeuAspThrWetGlnArgLeuAsnIleGlyTyr 350 Qy 562 GTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCC 606	Db 253 HislevalLeuGluSerLeuLysArgGluGlyLysGluProLeuValLeuLysGlyGly 272 Qy 373 TTTGCTGAGTTCTCTCGTTGTTTTCCCTTGGCCTCTGTGAAGAAAA
Qy 861 TCTGGGCCAACTCCTGGACTATGAGAAGATTAAGAACCAGACTGGAGCATCAGGGCC 920 :::	Qy 100 AGAILICALISMAN CHARGE CICCALISMAN COLOR	501 204 561 224 621 243	Qy 426 AGTCCCTACCTGCATTTCTCAGCCTTGCTT 455	Qy 312 CACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGGTTCACCTGCTTGC 365	Db 65 lASHVAIARGCYSASHTHRIIEVAIARGARGATGAlaLySGlySerValSerLeuGl 84 Qy 198 AGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGACTGCAGTCAGAA 251 Qy 198 GAGGTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAA 251 B4 uGlnIleLeuProAlaGluGluValArgAlaArgLeuArgSerGlyLeuTyrSerAl 104 Qy 252 GGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCCTCTCTCAGACTGTTTTCT 311	Best Local Similarity: 30.89% Mismatches: 143 Query Match: 12.59% Indels: 55 DB: 13.89% Us-09-702-705-805 (1-394) US-10-029-345A-108_COPY_538_2532 (1-1995) x US-09-702-705-805 (1-394) Qy 45 GGTGGCTCTGCTGGAAAGTGGAAACGGAA

```
SOFTWARE: FASTSEQ for Wi
SEQ ID NO 805
LENGTH: 394
TYPE: PRT
ORGANISM: Homo sapiens
US-09-736-457-805
                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-108_COPY_538_2532 (1-1995) x US-09-736-457-805 (1-394)
                                                                                                                                                                                                                                                                                                                                                                                                                   Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Fan, Liquin
APPLICANT: Wang, Aijun
APPLICANT: Wang, Aijun
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
FILE REFERENCE: 210121.478C15
CURRENT APPLICATION NUMBER: US/09/736,457
CURRENT FILING DATE: 2000-12-13
NUMBER OF SEQ ID NOS: 1864
SOFTMARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 8
US-09-736-457-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 805, Application Patent No. 6509448
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
APPLICANT:
APPLICANT:
                        312 CACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC-----AACTCTGTTCACCTGCTTGC 365
                                                                                      198 AGAGCTCATC-----CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAA 251
                                                                                                                                                                                                           138 TAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTAC 197
                                                                                                                      9
                                                                                                                                                                                                                                        78
                                                                                                                                                                                                                                                                                                                  26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1101
                                                                  a vali 1 eval TyrkspGluArgSerProArgAlaGluSerLeuArgGlukspSerThrVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       381 uProTyrLeu-----HisserProIleThrThrSerProSer 393
                                                                                                                                                                               :|||::: |||::: :::::::||||||
|AsnValArgCysAsnThrIleValArgArgArg---AlaLysGlySerValSerLeuGl
                                                                                                                                                                                                                                                                   |||||||::: ||| |||||:::
||GlyGlyAlaGlyGly-SerGlySerHisGlyThrLeuGlyLeuProSerGlyGlyLysCy
                                                                                                                                                                                                                                                                                                                                   GGTGGCTCTGCTGGAAAGTGGAACGGAA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Carter, Darrick
Retter, Marc
Mannion, Jane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bangur, Chaitany
Lodes, Michael &
Fanger, Gary
Vedvick, Tom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAGT 1143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCCCTGTGCCGACTCTGCTACCTC 1040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTGCCCAGCGTGCCCAGCGTGCA 1100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rGlnPheValPheSerPheProVal---SerValGlyValHisSerAlaProSerSerLe 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wang, Tongtong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Application US/09736457
                                                                                                                                                                                                                                                                                                                                                                                                             1.25e-32
455.00
49.87%
30.89%
12.59%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chaitanya
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŝ
                                                                                                                                                                                                                                                                                                                                                                                                       Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FOR THE THERAPY AND
                                                                                                                                                                                                                                                                                                                                                                                        394
122
75
143
55
                                                                     124
                                                                                                                                                                                  84
                                                                                                                                                                                                                                          65
                                                                                                                                                                                                                                                                                                 45
Sequence 805, Application US/09614124B
Fatent No. 6630574
GENERAL INFORMATION:
APPLICANT: Wang, Tongtong
APPLICANT: Hang, Tongtong
APPLICANT: Lodes, Michael A.
APPLICANT: Vedvick, Tom
APPLICANT: Vedvick, Tom
APPLICANT: Vedvick, Tom
APPLICANT: Carter, Darrick
APPLICANT: Retter, Marc
APPLICANT: Mannion, Jane
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THERAPY AND
                                                                                                                                                                                                     US-09-614-124B-805
                                                                                                                                                                                                                    RESULT 9
                                                                                                                                                                                                                                                   멍
                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                         뭐
                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뭕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Дb
                                                                                                                                                                                                                                                            1101 GCCGTCGCTGTTAGAGGACAGCCCCGCTGGTACAGGCGCCTCAGT 1143
                                                                                                                                                                                                                                 381 uProTyrLeu-----HisSerProIleThrThrSerProSer 393
                                                                                                                                                                                                                                                                                                      362
                                                                                                                                                                                                                                                                                                                                                                    981 AGAGGGTGGACAGAAAAGCGAGACGCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTC 1040
                                                                                                                                                                                                                                                                                                                                                                                                                     343
                                                                                                                                                                                                                                                                                                                                                                                                                             921 AAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTGCTGTCTC 980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 801 AGATGAAGCTTACAGATTTGTGAAAGAAAAAAGACCTACTATATCTCCCAAACTTCAATTT 860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      283 yTleSerArgSerAlaThrIleCysLeuAlaTyrLeuMetMetLysLysArgValArgLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  741 GATCTCCCGCCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             263 eGluTyrileAspAlaValiysAspCysArgCiyArgValieuValHisCysGlnAlaGi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        681 AGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTTTAGTGCACTGTTTAAGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     243 sCysIleÞrovalGluAspAsnHisLysAlaAspIleSerSerTrpPheMetGluAlaIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              621 GCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           224 aLeuLeuAsnvalSerSerAspCysProAsn---HisPheGluGlyHisTyrGlnTyrLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     561 TGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCT 620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          184 rSerCysGlyThrProLeuHisAspGlnGluGlyProvalGluIleLeuProPheLeuTy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                144 sGİYGİYTYrGluArgPheSerSerGluTyrProGluPheCysSerLysThrLysAlaLe 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                124
                                                                                                                                                                                                                                                                                  rGlnPheValPheSerPheProval---SerValGlyValHisSerAlaProSerSerLe 381
                                                                                                                                                                                                                                                                                                        AGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTGCCAGCGTGCCCAGCGTGCCCAGCGTGCA 1100
                                                                                                                                                                                                                                                                                                                                                                                                    aAlaSer-----aAlaSer-----
                                                                                                                                                                                                                                                                                                                                                   -----GlyGluArgGlyLysThrProAlaThrPro--
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ugludluhlapheGlupheValLysGlnArgArgSerIleileSerProAsnPheSerPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rLeuGiySerAlaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGiyileThrAl 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTA 560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCTGTTGCC------AACATTGGGCCAACCCGAATTCTTCCCAATCTTTA 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCCTGGGCCTCTGTGAAGGAAAATCCACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             lSerLeuValValGlnAlaLeuArgArgAsnAlaGluArgThrAspIleCysLeuLeuLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           204
```

B Ś 밁 Ś

밁 á 밁 Ś 밁 Ś

```
ঠ
                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                           유 성
                                                                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match:
DB:
                          ક
                                                                                          8
                                                                                                                          밁
                                                                                                                                                             δ
                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-029-345A-108_COPY_538_2532 (1-1995) x US-09-614-124B-805 (1-394)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-614-124B-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILE REFERENCE: 210121.478C9
CURRENT APPLICATION NUMBER: US/09/614,124B
CURRENT FILING DATE: 2001-07-11
NUMBER OF SEQ ID NOS: 1668
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 805
LENGTH: 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     No : :
                 681 AGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGG
                                                                                                                                                                                                                                                                                                           456
                                                                                                                                                                                                                                                                                                                                                                                                               144
                                                                                                                                                                                                                                                                          184
                                                                                                                                                                                                                                                                                                                                             164
                                                                                                                                                                                                                                                                                                                                                                             426
                                                                                                                                                                                                                                                                                                                                                                                                                                             366 AGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGGCCTCTGTGAAGGAAAATCCACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               124 lSerLeuValValGlnAlaLeuArgArgAsnAlaGluArgThrAspIleCysLeuLeuLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                312 CACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC-----AACTCTGTTCACCTGCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    198 AGAGCTCATC-----CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAA 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         138 TAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     84 uGlnIleLeuProAlaGluGluValArgAlaArgLeuArgSerGlyLeuTyrSerAl 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         65 lAsnValArgCysAsnThrIleValArgArgArg---AlaLysGlySerValSerLeuGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           26 GlyGlyAlaGlyGly-SerGlySerHisGlyThrLeuGlyLeuProSerGlyGlyLysCy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              45 GGTGGCTCTGCTGGAAAGTGGAACGGAA-----
                                                                                                                                                                                                                                                                        rSerCysGlyThrProLeuHisAspGlnGluGlyProValGluIleLeuProPheLeuTy
                                                                                                                                                                                                                                                                                                                                          uAlaAlaIleProProProValProProSerAlaThrGluProLeuAspLeuAspCysSe
                                                                                                                                   aLeuLeuAsnValSerSerAspCysProAsn---HisPheGluGlyHisTyrGlnTyrLy
                                                                                                                                                                                                                                                                                                                                                                                                             sGlyGlyTyrGluArgPheSerSerGluTyrProGluPheCysSerLysThrLysAlaLe
eGluTyrIleAspAlaValLysAspCysArgGlyArgValLeuValHisCysGlnAlaGl
                                                                                                     GCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAATCAGT
                                                                                                                                                                     TGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCT
                                                                                                                                                                                                    rLeuGlySerAlaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGlyIleThrAl
                                                                                                                                                                                                                                        TCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  aValIleValTyrAspGluArgSerProArgAlaGluSerLeuArgGluAspSerThrVa
                                                                   sCysIleProValGluAspAsnHisLysAlaAspIleSerSerTrpPheMetGluAlaIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.25e-32
455.00
49.87%
30.89%
12.59%
                                                                                                                                                                                                                                                                                                          -----AACATTGGGCCAACCCGAATTCTTCCCAATCTTA
                                                                                                                                                                                                                                                                                                                                                                             -GTCCCTACCTGCATTTCTCAGCCT------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----AAAGT
                                                                                                                                                                                                                                                                                                                                                                             -TGCTT
                                                                                                                                                                                                      224
                                                                                                                                                                                                                                                                                                                                                                             455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           65
                                   740
                                                                   263
                                                                                                                                      243
                                                                                                                                                                                                                                                                          204
                                                                                                                                                                                                                                                                                                           500
                                                                                                                                                                                                                                                                                                                                             184
                                                                                                                                                                                                                                                                                                                                                                                                             164
                                                                                                                                                                                                                                                                                                                                                                                                                                               425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              45
```

```
APPLICANT: Metter, Marc
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
TITLE OF INVENTION: DIACNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C12
CURRENT APPLICATION NUMBER: US/09/671,325
CURRENT FILING DATE: 2000-09-26
NUMBER OF SEQ ID NOS: 1825
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 805
LENGTH: 394
TYPE: PRT
TYPE: PRT
                                                                                                                                                            Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                            S
                                                               밁
                                                                                          Ś
                                                                                                                        US-10-029-345A-108_COPY_538_2532 (1-1995) x US-09-671-325-805 (1-394)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                             Score:
                                                                                                                                                                                                                                              Pred. No.:
                                                                                                                                                                                                                                                             Alignment Scores:
                                                                                                                                                                                                                                                                                              US-09-671-325-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-671-325-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 805, Application US/09671325 Patent No. 6667154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1101 GCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAGT 1143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           381 uProTyrLeu-----HisSerProIleThrThrSerProSer 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           801
 45
                            45 GGTGGCTCTGCTGGAAAGTGGAACGGAA-----
                                                             |||||||::: ||| ||||||:::
| GlyGlyAlaGlyGly-SerGlySerHisGlyThrLeuGlyLeuProSerGlyGlyLysCy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Carter, Darrick
Retter, Marc
Mannion, Jane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aAlaSer-----aAlaSer-----
sLeuLeuLeuAspCysArgProPheLeuAlaHisSerAlaGlyTyrIleLeuGlySerVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTGCCCAGCGTGCCCAGCGTGCA 1100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGAGGGTGGACAGAAAAGCGAGACGCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTC 1040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ANAGAGCANACTCAAGCTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTGCTGTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGGATGGACATGTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          eMetGlyGlnLeuLeuGlnPheGluSerGlnValLeuAlaThrSerCysAlaAlaGluAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAACCAGACTGGAGCATCAGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGATGAAGCTTACAGATTTGTGAAAGAAAAAAAGACCTACTATATCTCCAAACTTCAATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           rGlnPheValPheSerPheProVal---SerValGlyValHisSerAlaProSerSerLe 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----GlyGluArgGlyLysThrProAlaThrPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fanger, Gary
Vedvick, Tom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bangur, Chaitar
Lodes, Michael
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tongtong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chaitanya
Michael A.
                                                                                                                                                                          1.25e-32
455.00
49.87%
30.89%
12.59%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ø
                                                                                                                                                            Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FOR THE THERAPY AND
                                                                                                                                                                122
122
143
13
                                                                  45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          303
 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           960
```

```
1101 GCCGTCGCTGTTAGAGGACAGCCCGGTGGTACAGGCGCTCAGT 1143
                                                                                                                                                                                                                                                              124 lSerLeuValValGlnAlaLeuArgArgAsnAlaGluArgThrAspIleCysLeuLeuLy 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  312 CACTGTACTTCTGGGTAAAÇTGGAGAAGAGCTTC----AACTCTGTTCACÇTGÇTTGC 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 104 aVaillevalTyrAspGluArgSerProArgAlaGluSerLeuArgGluAspSerThrVa 124
                                                                                                                          rGlnPheValPheSerPheProVal---SerValGlyValHisSerAlaProSerSerLe 381
                                                                                                                                                          AGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTGCCCAGCGTGCCCAGCGTGCA
                                                                                                                                                                                                -----ĠİyGluArgGlyLysThrProAlaThrPro-
                                                                                                                                                                                                                           AGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTC 1040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   138 TAATATCAACTCCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTCTTAATTAC
                                                                                                                                                                                                                                                                                                                              TCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGAATTAAGAACCAGACTGGAGCATCAGGGCC
                                                                                                                                                                                                                                                                                                                                                                                             |:::||||||::: |||||||::::|||
uGluGluAlaPheGluPheValLysGlnArgArgSerIleIleSerProAsnPheSerPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  84 uGlnIleLeuProAlaGluGluGluValArgAlaArgLeuArgSerGlyLeuTyrSerAl 104
                                                                                                                                                                                                                                                                                                                                                                                                                     AGATGAAGCTTACAGATTTGTGAAAGAAAAAAGACCTACTATATCTCCGAAACTTCAATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                             yīleserArgserAlaThrileCysLeuAlaTyrLeuMetMetLysLysArgValArgLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGATITCATIGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGG 740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sCysilebrovalGluAspAsnHisLysAlaAspileSerSerTrpPheMetGluAlaIl 263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCT 620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aLeuLeuAsnvalSerSerAspCysProAsn---HisPheGluGlyHisTyrGlnTyrLy 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rLeuGİySerAlaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGİyİİeThrAl 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTA 560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rSerCysGlyThrProLeuHisAspGlnGluĠlyÞroValGluİleLeuProPheLeuTy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCTGTTGCC-----AACATTGGGCCAACCCGAATTCTTCCCAATCTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sGlyGlyTyrGluArgÞheSerSerGluTyrÞroGluPheCysSerLysThrLysAlaLe 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGGCCTCTGTGAAGGAAAATCCACTCT 425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGAGCTCATC-----CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  lAsnValArgCysAsnThrIleValArgArgArg---AlaLysGlySerValSerLeuGl
                                                                -HisserProIleThrThrSerProser 393
                                                                                                                                                                                                                                                                                                  980
                                                                                                                                                                                                                                                                                                                                                                                                 323
                                                                                                                                                                                                                                                                                                                                                                                                                                 860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19
                                                                        뭕
                                                                                                   Š
                                                                                                                                       밁
                                                                                                                                                                   δ
                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                        뫄
                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Hang, Tongtong
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Lodes, Michael A.
APPLICANT: Lodes, Michael A.
APPLICANT: Lodes, Michael A.
APPLICANT: Carter, Marchael A.
APPLICANT: Retter, Marchael A.
APPLICANT: Retter, Marcick
APPLICANT: Mannion, Jane
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THERAPY AND
FILE REFERENCE: 210121.478C8
CURRENT APPLICATION UNDERS: US/09/589,184
CURRENT APPLICATION UNDERS: US/09/589,184
CURRENT FILING DATE: 2000-06-05
SOPTWADER: DESCRIPTION: MARCHAEL STATES OF SEQ ID NOS: 827
SOPTWADER: Parters (A. 1972)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-029-345A-108_COPY_538_2532 (1-1995) x US-09-589-184-805 (1-394)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; TYPE: PRT
; ORGANISM: Homo
US-09-589-184-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: FA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-589-184-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 805, Application US/09589184 Patent No. 6686447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             No.:
501 TCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTA
                                                                                                    456
                                                                                                                                                                                                               366 AGGIGGGITIGGIGAGTICICICGTIGTITTCCCIGGCCTCIGIGAAGGAAAATCCACTCI 425
                                                                                                                                     164
                                                                                                                                                                     426
                                                                                                                                                                                                      144
                                                                                                                                                                                                                                             124 lSerLeuValValGlnAlaLeuArgArgAsnAlaGluArgThrAspIleCysLeuLeuLy 144
                                                                                                                                                                                                                                                                                312 CACTGTACTTCTGGGTAAAÇTGGAGAAGAGCTTC-----AACTCTGTTCACCTGCTTGC 365
                                                                                                                                                                                                                                                                                                              |||:::||||||||::: |||
104 aValIleValTyrAspGluArgSerProArgAlaGluSerLeuArgGluAspSerThrVa 124
                                                                                                                                                                                                                                                                                                                                                  198 AGAGCTCATC-----CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAA 251
                                                                                                                                                                                                                                                                                                                                                                                 84 uGlnIleLeuProAlaGluGluGluValArgAlaArgLeuArgSerGlyLeuTyrSerAl 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               138 TAATATCAACTGCTCCAAGCTTATGAAGCGAAGGGTTGCAACAGGACAAAGTGTTAATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                45 sLeuLeuLeuAspCysArgProPheLeuAlaHisSerAlaGlyTyriieLeuGlySerVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ||||||::: ||| |||||:::
26 GlyGlyAlaGlyGly-SerGlySerHisGlyThrLeuGlyLeuProSerGlyGlyLysCy 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       45 GGTGGCTCTGCTGGAAAGTGGAACGGAA-----
                                                rSerCysGlyThrProLeuHisAspGlnGluGlyProValGluIleLeuProPheLeuTy
                                                                                                             sGlyGlyTyrGluArgPheSerSerGluTyrProGluPheCysSerLysThrLysAlaLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.25e-32
455.00
49.87%
30.89%
12.59%
                                                                         -----AACATTGGGCCAACCCGAATTCTTCCCCAATCTTTA
                                                                                                                                                 -----GTCCCTACCTGCATTTCTCAGCCT-----TGCTT
```

Length:
Matches:
Conservative:
Mismatches:
Indels:

394 122 75 143 55

65

77

184 456 164 426 144 366

RESULT 11

500

204

164

Ş 뭐 Ş 뭐 Ś 밁 S 8 Ş 뫄 Ś Ъ Ş 밁 Ś Ъ Ś 뫄 Ś 뫄 δ 뭕 Ś 밁 Ś 밁 Ś 망 Ś Д Ś 뭐 Ş 밁 Ś

1041

```
US-08-530-290-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 23, Application US/08530290
Patent No. 5958721
GENERAL INFORMATION:
GAPPLICANT: Marshall, Christopher John
APPLICANT: Ashworth, Alan
APPLICANT: Hughes, David Anthony
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/GB94/00694
FILING DATE: 31-MAR-1994
PRIOR APPLICATION DATA:
                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: LEM PC compacible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Hughes, David Anthony
TITLE OF INVENTION: Methods for Screening of Substances
TITLE OF INVENTION: Therapeutic Activity and Yeast for UNUMBER OF SEQUENCES: 24
                                                                                                    SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA: APPLICATION UNMBER: US/08/530,290 FILING DATE: 14-DEC-1995
                                                                                                                                                                                                                                                                          ZIP: 94111-3834
                                                                                                                                                                                                                                                                                                                 STATE: California
                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                                     CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1101 GCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAGT 1143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1041 AGAGGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTGCCCAGCGTGCCCAGCGTGCA 1100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              381 uProTyrLeu-----HisSerProIleThrThrSerProSer 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         981 AGAGGGTGGACAGAAAAGCGAGACCCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 343 aAlaSer----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          263 eGluTyrileAspAlaValLysAspCysArgGlyArgValLeuValHisCysGlnAlaGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             204 rLeuGlySerAlaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGlyIleThrAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTGCTGTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SCYSIleProValGluAspAsnHisLysAlaAspIleSerSerTrpPheMetGluAlaIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----GlyGluArgGlyLysThrProAlaThrPro-----ThrSe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    eMetGlyGlnLeuLeuGlnPheGluSerGlnValLeuAlaThrSerCysAlaAlaGluAl 343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAACCAGACTGGAGCATCAGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGATGAAGCTTACAGATTTGTGAAAGAAAAAAAGACCTACTATATCTCCAAACTTCAATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ylleSerArgSerAlaThrIleCysLeuAlaTyrLeuMetMetLysLysArgValArgLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAAGGATGGACATGTCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            aLeuLeuAsnValSerSerAspCysProAsn---HisPheGluGlyHisTyrGlnTyrLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rGlnPheValPheSerPheProVal---SerValGlyValHisSerAlaProSerSerLe
                                                                                                                                                                                                                                                                                                USA
                                                                                                                                                                   Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----ProSerGlyProLeu-----
                                                                                                                                                                     #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   350
                                                               밁
                                                                                                      Ś
                                                                                                                                                  밁
                                                                                                                                                                                   S
                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-029-345A-108_COPY_538_2532 (1-1995) x US-08-530-290-23 (1-394)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; MOLECULE TYPE: US-08-530-290-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: (415) 576-03
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 07-APR-1993
ATTORNEY/AGENT INFORMATION:
NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 34,774
REFERENCE/DOCKET NUMBER: 08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: GB 9
FILING DATE: 10-FEB-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 394 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             No . :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: amino acid
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE:
                                                                                                                                                                                                                                   164
                                                                                                                                                                                                                                                                          426
                                                                                                                                                                                                                                                                                                                                                             366
                                                                                                                                                                                                                                                                                                                                                                                                                                                312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   104 avalllevalTyrAspGluArgSerProArgAlaGluSerLeuArgGluAspSerThrVa 124
                                                                 204
                                                                                                                                                  184
                                                                                                                                                                                         456
                                                                                                                                                                                                                                                                                                                   144
                                                                                                                                                                                                                                                                                                                                                                                                    124 lSerLeuValValGlnAlaLeuArgArgAsnAlaGluArgThrAspIleCysLeuLeuLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  138 TAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 198 AGAGCTCATC-----CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      84 uGlnIleLeuProAlaGluGluGluValArgAlaArgLeuArgSerGlyLeuTyrSerAl 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            45 sLeuLeuLeuAspCysArgProPheLeuAlaHisSerAlaGlyTyrIleLeuGlySerVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ||||||::: ||| |||||:::
26 GlyGlyAlaGlyGly-SerGlySerHisGlyThrLeuGlyLeuProSerGlyGlyLysCy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    45 GGTGGCTCTGCAAAAGTGGAACGGAA------
                                                                                                                                                                                                                                                                                                                                                        AGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                              CACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC----AACTCTGTTCACCTGCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rSerCysGlyThrProLeuHisAspGlnGluGlyProValGluIleLeuProPheLeuTy
TGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCT ::: | | | | | | | | | | | | :::
                                                                                                                                                                                                                                   uAlaAlaIleProProProValProProSerAlaThrGluProLeuAspLeuAspCysSe 184
                                                                                                                                                                                                                                                                          A-----TGCTT
                                                                                                                                                                                                                                                                                                                   sGlyGlyTyrGluArgPheSerSerGluTyrProGluPheCysSerLysThrLysAlaLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            lAsnValArgCysAsnThrIleValArgArgArg---AlaLysGlySerValSerLeuGl 84
                                                               rLeuGlySerAlaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGlyIleThrAl 224
                                                                                                        TCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              : (415) 576-0200
(415) 576-0300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6.62e-32
447.00
49.62%
30.63%
12.37%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GB 9307250.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GB 9402573.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                084611-000000US
                                                                                                                                                                                           -----AACATTGGGCCAACCCGAATTCTTCCCCAATCTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         394
121
75
144
13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAAGT
                                                                                                                                                                                           500
                                                                                                                                                                                                                                                                              455
                                                                                                                                                                                                                                                                                                                                                                                                        144
                                                                                                                                                    204
                                                                                                                                                                                                                                                                                                                      164
                                                                                                                                                                                                                                                                                                                                                               425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 <u>4</u>5
```

밁 S 8 ક 밁 ક 멍 ક 뭐 ş В S 밁 ક 뭐 5 밁 Ş В δ

당

224

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 13
US-09-702-705-827
                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      占
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                       Sequence 827, Appl
Patent No. 6504010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1101 GCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAGT 1143
                                                                                                                                                                                                                                                                                                                                                                                                                                       381 uproTyrLeu-----HisserProIleThrThrSerProSer 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rGlnPheValPheSerPheProVal---SerValGlyValHisSerAlaProSerSerLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGAGGCAGCAGGACAAAGGCCCGTGCCATCCCGCCAGCGTGCCCAGCGTGCCCAGCGTGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ----ArgGluArgGlyLysThrProAlaThrPro----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGAGGGTGGACAGAAAAGCGAGAÇÇÇÇÇCTCAGTÇÇACCCTGTGCCGACTCTGCTAÇÇTÇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCCAAATGAACCTGTCCCTGCTGTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     uGluGluAlaPheGluPheValLysGlnArgArgSerIleileSerProAsnPheSerPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGATGAAGCTTACAGATTTGTGAAAGAAGAAAAAAGACCTACTATATCTCCAAACTTCAATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ylleSerArgSerAlaThrIleCysLeuAlaTyrLeuMetMetLysLysArgValArgLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               eGluTyriieAspAlaValLysAspCysArgGlyArgValLeuValHisCysGlnAlaGi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                 Application
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sCysIleProvalGluAspAsnHisLysAlaAspIleSerSerTrpPheMetGluAlaIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAATCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        aLeuLeuAsnValSerSerAspCysProAsn---HisPheGluGlyHisTyrGlnTyrLy
                                   6.62e-32
447.00
50.38%
30.89%
12.37%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ProSerGlyProLeu-----
                                                                                                                                                                                                                                                                                                                                                                                               US/09702705
                                                                                                                                                                                                                                          AND METHODS
LUNG CANCER
                                                               Length:
Matches:
Conservative:
                                          Mismatches:
Indels:
                                                                                                                                                                                                                                                   FOR THE THERAPY
                           394
122
77
141
55
                                                                                                                                                                                                                                                  AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          243
                             Ś
                                                      밁
                                                                         Ş
                                                                                                 В
                                                                                                                    Ś
                                                                                                                                              В
                                                                                                                                                                     Ş
                                                                                                                                                                                             Вb
                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                  뫄
                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                  뭐
                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-029-345A-108_COPY_538_2532 (1-1995) x US-09-702-705-827 (1-394)
                                                   343
                                                                                                 323
                                                                                                                       861
                                                                                                                                              303
                                                                                                                                                                                             283
                                                                                                                                                                                                                                                                681
                                                                                                                                                                                                                                         263
                                                                                                                                                                                                                                                                                                                                     224
                                                                                                                                                                                                                                                                                                                                                                                 204
                                                                                                                                                                                                                                                                                                                                                                                                        501
                                                                                                                                                                                                                                                                                                                                                                                                                             184
                                                                                                                                                                                                                                                                                                                                                                                                                                                     451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   426 A-----GTCCCTACCTGCATTTCTCAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          144 sGlyGlyTyrGluArgPheSerSerGluTyrProGluPheCysSerLysThrLysAlaLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             312 CACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC-----AACTCTGTTCACCTTGCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |||:::||||||||:::
| 104 aVallieValTyrAspGluArgSerProArgAlaGluSerLeuArgGluAspSerThrVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             198 AGAGCTCATC-----CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAA 251
               AGAGGGTGGACAGAAAAGCGAGAÇGCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTC
                                                            AAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTGCTGTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                84 uGlnIleLeuProAlaGluGluGluValArgAlaArgLeuArgSerGlyLeuTyrSerAl 104
-----ArgGluArgGlyLysThrProAlaThrPro-
                                                                                   eMetGlyGlnLeuLeuGlnPheGluSerGlnValLeuAlaThrSerCysAlaAlaGluAl
                                                                                                         TCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGACTGGAGCATCAGGGCC 920
                                                                                                                                uGluGluAlaPheGluPheValLysGlnArgArgSerTleIleSerProAsnPheSerPh
                                                                                                                                                       AGATGAAGCTTACAGATTTGTGAAAGAAAAAAGACCTACTATATATCTCCCAAACTTCAATTT 860
                                                                                                                                                                              yīleSerArgSerAlaThrileCysLeuAlaTyrLeuMetMetLysLysArgValArgLe
                                                                                                                                                                                               GATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            45 sLeuLeuLeuAspCysArgProPheLeuAlaHisSerAlaGlyTyrileLeuGlySerVa
                                                                                                                                                                                                                          eGluTyrīieAspAlaValLysAspCysArgGiyArgVaiLeuValHisCysGlnAlaGi
                                                                                                                                                                                                                                          AGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTTCTAGTGCACTGTTTAGCTGG
                                                                                                                                                                                                                                                                                              GCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAATCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26
                                                                                                                                                                                                                                                                      sCysIleprovalGluAspAsnHisLysAlaAspileSerSerTrpPheMetGluAlaIl 263
                                                                                                                                                                                                                                                                                                                     aLeuLeuAsnValSerSerAspCysProAsn---HisPheGluGlyHisTyrGlnTyrLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              45
                                                                                                                                                                                                                                                                                                                                      TGTGTTTAAATGCCAGCTATAACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCT 620
                                                                                                                                                                                                                                                                                                                                                                                                                              ----TGC---TTACCTGTTGCCAACATT---GGGCCAACCCGAATTCTTCCCCAATCTTTA 500
                                                                                                                                                                                                                                                                                                                                                                   rLeuGlySerAlaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGlyIleThrAl
                                                                                                                                                                                                                                                                                                                                                                                       TCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTA 560
                                                                                                                                                                                                                                                                                                                                                                                                                 rSerCysGlyThrProLeuHisAspGlnGlyGlyProValGluileLeuProPheLeuTy
                                                                                                                                                                                                                                                                                                                                                                                                                                                             uAlaAlaIleProProProValProProSerAlaThrGluProLeuAspLeuGlyCysSe 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1SerLeuValValGlnAlaLeuArgArgAsnAlaGluArgThrAspIleCysLeuLeuLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ||||||::: ||| |||||:::
||GlyGlyAlaGlyGly-SerGlySerHisGlyThrLeuGlyLeuProSerGlyGlyLysCy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGTGGCTCTGGAAAGTGGAACGGAA----
                                       ProSerGlyProLeu-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAAGT
```

1040 350

323

303 800 283 740

680 243 224

204

450 164

365

124

84 197 65

45

425

224 560 204 500

```
밁
                                                                                                                                                                                                                                    ঠ
                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                         ર્
                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                          В
                                                                                          ð
                                                                                                                                뮍
                                                                                                                                                           ર્
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-029-345A-108_COPY_538_2532 (1-1995) x US-09-736-457-827 (1-394)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-736-457-827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-736-457-827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 827
LENGTH: 394
TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sequence 827, Application US/09736457
Patent No. 6509448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/736,457
CURRENT FILING DATE: 2000-12-13
NUMBER OF SEQ ID NOS: 1864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Wang, Liqun
APPLICANT: Wang, Ajun
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1041 AGAGGCAGCAGGACAAAGGCCCGTGCATCCCCGCCAGCGTGCCCAGCGTGCCCAGCGTGCA 1100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1101 GCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCCCCAGT 1143
                        366
                                                                                                                                                                                                                                                                                                              138 TAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTAC 197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  381 uProTyrLeu-----HisSerProIleThrThrSerProSer 393
                                                        124 lSerLeuValValGlnAlaLeuArgArgAsnAlaGluArgThrAspIleCysLeuLeuLy 144
                                                                                                                                                                                                                                          198 AGAGCTCATC-----CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAA 251
                                                                                                                                                                                                                                                                                                                                                      45
                                                                                                                                                                                                    84 uGlnIleLeuProAlaGluGluValArgAlaArgLeuArgSerGlyLeuTyrSerAl 104
                                                                                                                                                                                                                                                                                                                                                                                        26 GlyGlyAlaGlyGly-SerGlySerHisGlyThrLeuGlyLeuProSerGlyGlyLysCy 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                              45
   AGGTGGGTTTGCTCAGTTCTCTCTGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCT
                                                                                              CACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC-----AACTCTGTTCACCTGCTTGC
                                                                                                                                aValIleValTyrAspGluArgSerProArgAlaGluSerLeuArgGluAspSerThrVa
                                                                                                                                                                    sLeuLeuLeuAspCysArgProPheLeuAlaHisSerAlaGlyTyrIleLeuGlySerVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGTGGCTCTGCTGGAAAGTGGAACGGAA-----
                                                                                                                                                                                                                                                                            lAsnValArgCysAsnThrIleValArgArg---AlaLysGlySerValSerLeuGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Carter, Darrick
Retter, Marc
Mannion, Jane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rGlnPheValPheSerPheProVal---SerValGlyValHisSerAlaProSerSerLe 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Wang,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fanger, Gary
Vedvick, Tom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bangur, Chaitanya
Lodes, Michael A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  r, Chaitanya
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6.62e-32
447.00
50.38%
30.89%
12.37%
                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    394
122
77
141
55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                -AAAGT
                                                                                                                                  124
                                                                                              365
                                                                                                                                                                    311
                                                                                                                                                                                                                                                                                84
                                                                                                                                                                                                                                                                                                                                                      65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                77
                        425
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Lodes, Michael A.
APPLICANT: Fanger, Gary
APPLICANT: Vedvick, Tom
APPLICANT: Vedvick, Tom
APPLICANT: Retter, Darrick
APPLICANT: Retter, Marc
APPLICANT: Mannion, Jane
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
TITLE REFERENCE: 210121.478C9
CURRENT APPLICATION UNMBER: US/09/614,124B
CURRENT FILING DATE: 2001-07-11
NUMBER OF SEQ ID NOS: 1668
                                                                                                                                                                                                                                                                                                                                                                       片
                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ঠ
                                                                                                                                                                                                                                                                                                              US-09-614-124B-827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            맑
                                                                                                                                                                                                                                                                                                                                   RESULT 15
                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: Wang, Tongtong
                                                                                                                                                                                                                                                                            Sequence 827, Application US/09614124B Patent No. 6630574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1041
                                                                                                                                                                                                                                                                                                                                                                                                         1101 GCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAGT 1143
                                                                                                                                                                                                                                                                                                                                                                                                                                             362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       303
                                                                                                                                                                                                                                                                                                                                                                       381 uProTyrLeu-----HisSerProIleThrThrSerProSer 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         801 AGATGAAGCTTACAGATTTGTGAAAGAAAAAAAGACCTACTATATCTCCAAACTTCAATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     263 eGluTyrileAspAlaValLysAspCysArgGlyArgValLeuValHisCysGlnAlaGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    451 ----TGC---TTACCTGTTGCCAACATT---GGGCCAACCCGAATTCTTCCCCAATCTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            426 A-----GTCCCTACCTGCATTTCTCAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              144 sGlyGlyTyrGluArgPheSerSerGluTyrProGluPheCysSerLysThrLysAlaLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GATCTCCCGCTCCGCCACCATCGCCTATCGCCTACATCATGAAGAGGATGGACATGTCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sCysIleProvalGluAspAsnHisLysAlaAspIleSerSerTrpPheMetGluAlaIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rSerCysGlyThrProLeuHisAspGlnGlyGlyProValGluIleLeuProPheLeuTy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       uGluGluAlaPheGluPheValLysGlnArgArgSerIleIleSerProAsnPheSerPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               yIleSerArgSerAlaThrIleCysLeuAlaTyrLeuMetMetLysLysArgValArgLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aLeuLeuAsnValSerSerAspCysProAsn---HisPheGluGlyHisTyrGlnTyrLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ANAGAGCANACTCANGCTGCTGCACCTGGAGAAGCCANATGAACCTGTCCCTGCTGTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAACCAGACTGGAGCATCAGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAATCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rLeuGlySerAlaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGlyIleThrAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                             rGlnPheValPheSerPheProVal---SerValGlyValHisSerAlaProSerSerLe 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTGCCCAGCGTGCCCAGCGTGCA 1100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----ArgGluArgGlyLysThrProAlaThrPro------ThrSe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----ProSerGlyProLeu--
                                                                                                THERAPY
```

for Windows Version 3.0

```
; SOFTWARE: FastSEQ for Wir
; SEQ ID NO 827
; LENGTH: 394
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-614-124B-827
                         Ś
                                                      밁
                                                                          Ś
                                                                                                       В
                                                                                                                           5
                                                                                                                                                  В
                                                                                                                                                                              5
                                                                                                                                                                                                       유왕
                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                  문
                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-029-345A-108_COPY_538_2532 (1-1995) x US-09-614-124B-827 (1-394)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              No.:
     283
                            741
                                                      263
                                                                              681
                                                                                                        243
                                                                                                                                  621
                                                                                                                                                           224
                                                                                                                                                                                    561
                                                                                                                                                                                                             204
                                                                                                                                                                                                                                       501
                                                                                                                                                                                                                                                               184
                                                                                                                                                                                                                                                                                         451
                                                                                                                                                                                                                                                                                                                                           426
                                                                                                                                                                                                                                                                                                                                                                     144
                                                                                                                                                                                                                                                                                                                                                                                              366
                                                                                                                                                                                                                                                                                                                                                                                                                         124
                                                                                                                                                                                                                                                                                                                                                                                                                                                312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           104
                                                                                                                                                                                                                                                                                                                  164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             45
AGATITCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGG
                                                eGluTyrileAspAlaValLysAspCysArgGlyArgValLeuValHisCysGlnAlaGl
                                                                                                                                                                                                                                                                                                               GCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAATCAGT 680
                                                                                                                                                                                                                                                              rSerCysGlyThrProLeuHisAspGlnGlyGlyProValGluIleLeuProPheLeuTy
                                                                                                                                                                                                                                                                                                                                                                 sGlyGlyTyrGluArgPheSerSerGluTyrProGluPheCysSerLysThrLysAlaLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |||:::||||||||::: |||
aVallleValTyrAspGluArgSerProArgAlaGluSerLeuArgGluAspSerThrVa 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     uGlnIleLeuProAlaGluGluGluValArgAlaArgLeuArgSerGlyLeuTyrSerAl 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlyGlyAlaGlyGly-SerGlySerHisGlyThrLeuGlyLeuProSerGlyGlyLysCy
                                                                                                       sCysIleProValGluAspAsnHisLysAlaAspIleSerSerTrpPheMetGluAlaIl
                                                                                                                                                         aLeuLeuAsnValSerSerAspCysProAsn---HisPheGluGlyHisTyrGlnTyrLy 243
                                                                                                                                                                                   TGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCT
                                                                                                                                                                                                          rLeuGlySerAlaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGlyIleThrAl 224
                                                                                                                                                                                                                                    TCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTA
                                                                                                                                                                                                                                                                                        ----TGC---TTACCTGTTGCCAACATT---GGGCCAACCCGAATTCTTCCCAATCTTTA 500
                                                                                                                                                                                                                                                                                                                                                                                           AGGIGGGTTTGCTGAGTTCTCTCGTTGTTTCCCCTGGCCTCTGTGAAGGAAAATCCACTCT 425
                                                                                                                                                                                                                                                                                                                                                                                                                     lSerLeuValValGlnAlaLeuArgArgAsnAlaGluArgThrAspIleCysLeuLeuLy 144
                                                                                                                                                                                                                                                                                                                                                                                                                                               CACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC----AACTCTGTTCACCTGCTTGC 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGAGCTCATC-----CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ::|||::: ||||::: ::::::|||||||
|AsnValArgCysAsnThrIleValArgArgArg---AlaLysGlySerValSerLeuGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGTGGCTCTGCTGGAAAGTGGAACGGAA------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6.62e-32
447.00
50.38%
30.89%
12.37%
                                                                                                                                                                                                                                                                                                                                           -----GTCCCTACCTGCATTTCTCAGCCT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative: Mismatches: Indels: Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              394
122
77
141
141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----AAAGT
                                                                            740
                                                                                                       263
                           800
  303
                                                                                                                                                                                                                                                              204
                                                                                                                                                                                                                                                                                                                                          450
                                                                                                                                                                                                                                                                                                                                                                   164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            77
```

```
밁
                       Ş
                                                 D,
                                                                      δ
                                                                                                     밁
                                                                                                                       Ş
                                                                                                                                                       밁
                                                                                                                                                                            Ş
                                                                                                                                                                                                    뮹
                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                δ
                           1101
                                                                              1041
                                                    362
                                                                                                       351
 381
                                                                                                                                                          343
                                                                                                                                981
                                                                                                                                                                                                                                     861
                                                                                                                                                                                                                                                                303
                                                                                                                                                                                 921 AAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTGCTGTCTC
uProTyrLeu-----HisserProIleThrThrSerProSer 393
                        GCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAGT 1143
                                              rGlnPheValPheSerPheProVal---SerValGlyValHisSerAlaProSerSerLe 381
                                                                                                                                                          aAlaSer----
                                                                                                                                                                                                                                                           AGAGGCAGCAGAAAAGGCCCGTGCATCCCGCCAGCGTGCCCAGCGTGCCCAGCGTGCA 1100
                                                                                                    -----ArgGluArgGlyLysThrProAlaThrPro------ThrSe
                                                                                                                                AGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTC 1040
                                                                                                                                                                                                           eMetGlyGlnLeuLeuGlnPheGluSerGlnValLeuAlaThrSerCysAlaAlaGluAl
                                                                                                                                                                                                                            TCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAACCAGACTGGAGCATCAGGGCC
                                                                                                                                                          -----ProSerGlyProLeu-----
                                                                                                       362
                                                                                                                                                          350
                                                                                                                                                                                  980
                                                                                                                                                                                                                                     920
                                                                                                                                                                                                                                                                323
```

Search completed: June 21, Job time : 42.4447 secs 2004, 12:43:22

```
Page
```

```
Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    욧
                                                                                                                                                                                                                                                                                                                                                          Database
                                                                                                                                                                                                                                                                                                                                                                        Post-processing: Minimum Match 0%
Maximum Match 100
Listing first 45
                                                                                                                                                                                                                                                                                                                                                                                                                                     Total number
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   95:
                                                                                                                                                                                                                                                                                                                                                                                                            seq
                                                                                                                                                                                                                                                                                                                                                                                                                                      of,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nucleic search,
                                                                                                                                                                                                                                                                                                                                                                                                           length:
                                                                                                                                                                                                                                                                                                                                                                                                                                    hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IDENTITY_NUC Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  June 21, 2004, 12:17:10 ; Search time 12558 Seconds (without alignments) 6885.611 Million cell up
                                   GenEmbl:*
1: gb_ba:*
2: gb_htg:*
3: gb_in:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-029-345A-108_COPY_538_2532
1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                      3470272 seqs,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                atggcccatgagatgattgg.....tggaaatcattgaggtctcc 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Copyright
                                                                                                                                                                                                                                                                   gb_om: *
gb_pat: *
gb_pr: *
gb_pr: *
                          em_vi:*
em_htg_hum:*
em_htg_inv:*
em_htg_other:*
em_htg_pln:*
em_htg_rod:*
em_htg_rod:*
em_htg_vrt:*
em_htg_vrt:*
em_htgo_hum:*
em_htgo_mus:*
em_htgo_other:*
                                                                                                                                                                                                                                  gb_sts:*
gb_un:*
gb_vi:*
                                                                                                            em_or: *
em_oph: *
em_ph: *
em_ph: *
em_ro: *
em_un: *
                                                                                                                                                                                em_fun: *
em_hum: *
em_in: *
em_mu: *
em_om: *
                                                                                                                                                                                                                                                                                                                                                                                                            20000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GenCore version (c) 1993 - 2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                      21671516995 residues
                                                                                                                                                                                                                                                                                                                                                                          100%
45 gt
                                                                                                                                                                                                                                                                                                                                                                           summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ₩
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5.1.6
Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                      6940544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cell updates/sec
```

Pred. ŏ 18 the number of results predicted by chance ç

REFERENCE AUTHORS

Todderud,C.G., Bol,D., Finger,J., Lee,L., Nelson,T., Schieven,G., Suchard,S., Banas,D., Bassolino,D., Feder,J., Krystek,S., Mcatee,P., Mintier,G., Siemers,N., Jackson,D.G. and Ramanathan,C.

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae;

Euteleostomi; Homo.

KEYWORDS SOURCE ORGANISM

Homo sapiens Homo sapiens

(human)

score greater than or equal to the score of the result being and is derived by analysis of the total score distribution. printed,

RESULT 1 AX482439 LOCUS DEFINITION ACCESSION VERSION Result No. a O a 1200.6 1183.4 1183.4 1183.4 1653.8 1653.8 1572.4 1572.4 1567.6 1962. 1906. 1844. 1988 879 858 858 1554.8 1991 991.8 Sequence 108 from Paten AX482439 AX482439.1 GI:22316984 AX482439 Match 1916 1916 1201474 1236589 1236589 1242590 1244605 1250782 172206 188344 Length 4026 3231 2377 2377 3284 2071 2200 2200 2807 1935 1933 4943 4975 4874 3566 4992 3544 from Patent BB •••••••• BC057232 BC0572321 AB0521571 AB0521571 AF344824444 AF345951 AF345951 AC007619 AC1007619 AC10180353010 AC1180353010 AC11803722 AC11803722 AC11803722 AC11803723 AC133722 AC1345933 AC1345953 AX868469 BD1485953 BC063941 AX260342 AX278461 AX278461 AX2784121 AX260340 AB552156 AX260340 AF506796 AX374994 BD171157 BD181487 BD181487 AX180875 AX180875 AX4855973 AX4855973 AX4855973 AX4855973 AX485372 AX521917 AX521917 AX521917 AX521917 AX521917 AX521917 AX521917 AX521917 AX521917 AX521917 AX482439 AX482478 AX441229 5450 bp DNA : WO02057460. ALIGNMENTS linear AB052156 Homo sapi AX260340 Sequence AF506796 Homo sapi AX374994 Sequence BD171157 Novel gen BD18342 Novel gen AB051487 Homo sapi AX180875 Sequence AX405700 Sequence AX713989 Sequence AX713989 Sequence AX6055973 Homo sapi BC031643 Homo sapi AY039927 Homo sapi AX441229 Sequence BC059232 Mus muscu BC057321 Mus muscu AB052157 Mus muscu AB052157 Mus muscu AX482444 Sequence AF345951 Mus muscu AF345951 Mus muscu AF345952 Mus muscu AC07619 Homo sapi AC131617 Homo sapi AC131617 Homo sapi AC131692 Mus muscu AC099310 Rattus no AC097918 Rattus no AC128093 Rattus no AX868469 Sequence BD148531 Primer fo AF345953 Mus muscu BC063941 Danio rer AR255944 Sequence AX713989 AK055973 AX482372 AX099933 AX482439 Sequence AX482478 Sequence U27193 Human prote AX9219: Description PAT 16-AUG-2002 Sequence Sequence Homo sapi Sequence Sequence

2 12 2 12 3 65 5 18 6 18 6 18 77 77 3 3 60 8 3 7 3 60 8 9 7 7 4 2 0 9 5 7 4 4 2 0 9 5 7 1 1 0 1 1 0 1	TITLE JOURNAL EATURES SOURCE CDS CDS CDS IIGIN Query Match Best Local S Best Local S Best Local 1995
	Db 1138 ATCCCCGAGTCTCATTTCCTGCGTGGACTATGAGAAGCCTACTTTGTGAGAAAAGACTAAAAGACTACTATGTTTGTT

Query Match Query Match Best Local Similarity 100.0%; Score 1995; DB 6; Length 5450; Best Local Similarity 100.0%; Pred. No. 0; Matches 1995; Conservative 0; Mismatches 0; Indels 0; Gaps. 0; Matches 1995; Tonservative 0; Mismatches 0; Indels 0; Gaps. 0; Matches 1995; Tonservative 0; Mismatches 0; Indels 0; Gaps. 0; Matches 1995; Tonservative 0; Mismatches 0; Indels 0; Gaps. 0; Matches 1995; Tonservative 0; Mismatches 0; Indels 0; Gaps. 0; Matches 1995; Tonservative 0; Mismatches 0; Indels 0; Gaps. 0; Matches 1995; Tonservative 0; Mismatches 0; Indels 0; Gaps. 0; Matches 1995; Tonservative 0; Mismatches 0; Indels 0; Gaps. 0; Matches 1995; Tonservative 0; Mismatches 0; Indels 0; Gaps. 0; Matches 1995; Tonservative 0; Mismatches 0; Indels 0; Gaps. 0; Matches 1995; Tonservative 0; Mismatches 0; Indels 0; Gaps. 0; Matches 1995; Tonservative 0; Mismatches 0; Indels 0; Gaps. 0; Matches 1995; Tonservative 0; Mismatches 0; Indels 0; Gaps. 0; Matches 1995; Tonservative 0; Mismatches 0; Indels 0; Gaps. 0; Matches 1995; Tonservative 0; Mismatches 0; Indels 0; Gaps. 0; Matches 1995; Tonservative 0; Mismatches 0; Indels 0; Gaps. 0; Matches 1995; Tonservative 0; Mismatches 0; Indels	KRPTISPNENFLIGOLLDYEKKI KNOTGASGPKSKLKLIHLEKENEPVPAVSEGGOKSE TPLSPPCADSATSEAAGORPVHPASVESVGSVGPSLLEDSPLVQALSGLHLSADRLED SNKLKRSFSLDIKSVSYSASWAASLHGFSSSEDALETYKRSTTLDGTWLCOPSPVQE LSEQTPETSPDKEEASIPKKLQTARPSDSQSKRLHSVRTSSSGTAQRSLLSPLHRSGS VEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWHSDILAPQTSTPSLTSSWYFATESSHF YSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRRQKPSDRADSRRSWHEESPFEKQFK RRSCQMEFGESIMSENRSREELGKVGSQSSFSGSMEIIEVS"	/db_xref="REMTREMBL: CAD44453" /translation="MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEXNTSHILE /translation="MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEXNTSHILE AININCSKLMKRRLQQDKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDC FLTVLLGKLKSFNSVHLLAGGFAEFSRCFFGLCEGKSTLVETCISQPCLFVANIGFT RILPNLYLGCQRDVLMKELIQQNGIGYVLNASYTCFKDFIPESHFLRVFVNDSFCEK ILPMLDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKE	/db xref="d-"RAYON:9606" /db xref="dxxon:9606" /proteIn id="CAD44453.1" /db xxef="GI:22317000"	FEATURES LOCATION WERS CO (US) FEATURES LOCATION/Qualifiers 15450 Organism="Homo sapiens" Organism="Homo sapiens"	Suchard S., Banas, D., Bassolino, D., Feder, J., Krystek, S., Mcatee, P., Mintier, G., Siemers, N., Jackson, D.G. and Ramanathan Polynucleotides encoding human phosphatases Patent: WO 02057460-A 147 25-UUL-2002;	ORGANISM Homo sapiens Eŭkaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, REFERENCE 1 AUTHORS Todderud C.G., Bol D., Finger J., Lee L., Nelson T., Schieven G.,	AX482 N Seque AX482 AX482 Homo	Db 2518 ATCATTGAGGTCTCC 2532 RESULT 2 AX482478	1981 ATCATTGAGGTCTCC 1995	Qy 1921 AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGGTCTAGCTTTTCGGGCAGCATGGAA 1980	QY 1861 AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC 1920	QY 1801 CAGAAGCCAAGTGACAGAGCTGACTCGCCGGCGGAGCTGACATGAAGAGAGCCCCTTTGAA 1860	Qy 1741 GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG 1800	Db 2218 ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT 2277
D Q D Q	D	Qy Db	Q	QU	Qy Db	D Qy	r, Q D Q9	Qy	Ωy	D QY	D 5) D 4	D D	 Qy
1021 TGTGCCGACTCTGCTACACAGGCAGGAGGACAAAGGCCCGTGCATCCCGCCAGCGTG 1080	901 CAGACTGCAGCATICAGGCCAAAGGCCAAACTCAGCTGCTGCACCCTGAGAGACCAAAT 900	AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAAA	721 CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCATCGCTATCGCCTACCATCATG 780	661 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT 720 	ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG	1018 CGMATICITCCCATCLITATCLIGGCLIGGCAGCGGAATGCCCCAAAGCCTGACATTT 600 541 CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT 600		361 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC 420	301 GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG 360	241 IGCAGICAGAAGGITGIAGITIA CGATCAAAGCICCCAAGAIGIIGCICICICICICICICICA 300	GACAMOS ISLIMITIACAMOS ICAI CONSCALITAGOS MODIFICACIONES EN CATEGORIA (CASTELLA) (CASTEL			61 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAAATACAATACATCC 120

and

ВB 2: 6

Indels Length

٥,

60 60

```
SOURCE
ORGANISM
                                                                                                       RESULT 3
AX260342
LOCUS
DEFINITION
ACCESSION
VERSION
KEYMORDS
                                      REFERENCE
                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                         뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뮰
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                      2518
                                                                                                                                                                                                                                                              1981
                                                                                                                                                                                                                                                                                           2458
                                                                                                                                                                                                                                                                                                                     1921
                                                                                                                                                                                                                                                                                                                                                  2398
                                                                                                                                                                                                                                                                                                                                                                             1861
                                                                                                                                                                                                                                                                                                                                                                                                         2338
                                                                                                                                                                                                                                                                                                                                                                                                                                    1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1978
                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                   AX260342
Sequence 3 from
AX260342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1738
                                                                       Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1678
                                                                                                               AX260342.1 GI:16509305
                                                                                                                                                                                                                                                                                                                                 AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                             ATCATTGAGGTCTCC 2532
                                                                                                                                                                                                                                                   ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                              AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGCTTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                             CAGAAGCCAAGTGACAGAGCTGACTCGCGGGGGGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTCACTGCATCGAAGTGGGAGCGTGGACGACCACCACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTCCACTGCATCGAAGTGGGAGGACTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGCGGCGAGAGGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a A G C T A T G C C A G T T C T C C C C T G T T C A G G A A C T A T C G G A G C A G T C C C G A A A C C A G T C C T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCGACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1998 bp
Patent WO0173059
                                                                                                                                                                                                                                                           1995
                                                                                                                                                      DNA
                                                                                                                                                   PAT
                                                                                                                                                  26-OCT-2001
                                                                                                                                                                                                                                                                             2517
                                                                                                                                                                                                                                                                                                       1980
                                                                                                                                                                                                                                                                                                                                 2457
                                                                                                                                                                                                                                                                                                                                                              1920
                                                                                                                                                                                                                                                                                                                                                                                          2397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                 2337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1200
                S
                                         밁
                                                                Ś
                                                                                                B
                                                                                                                     5
                                                                                                                                                  В
                                                                                                                                                                             δ
                                                                                                                                                                                                             당
                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                          뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Дd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 1993; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                         781
                                                                   781
                                                                                                721
                                                                                                                         721
                                                                                                                                                        661
                                                                                                                                                                                  661
                                                                                                                                                                                                               601
                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                            CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCCTATCGCCTACATCATCATCATG
                                                                                                                                         ccereerreeacaaarcaeraearricarreagaaaaecaaaaeccrecaareearerr
                                                                                                                                                           CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                               ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <u>_</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           щ
                                                                                                                                                                                                                                                                         CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                              CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                       cagcagaarigggarrargrerraaarigccagcaaraccrerccaaagccreactrr
                                                                                                                                                                                                                                                                                                             a crena droce de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compos
                                                                                                                                                                                                                                                                                                                                                                                     ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                             crrecaderoderriecreaerrererrerrecerrecerreceredecerererdadedadarece
                                                                                                                                                                                                                                                                                                                                                                                                                                          CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Patent: WO 0173059-A 3 04-OCT-2001, Millennium Pharmaceuticals, Inc. (US)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         récagricagaaggritgragittracgarcaaaggricecaaagargritgecrererererea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           therefor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Meyers, R.A.
38692 and 21117: dual
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGTGGAACGGAAAAGTGCTGATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99.8%;
nilarity 99.9%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ۰,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 1991.8;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              specificity phosphatase molecules
```

840

780 780

720 720

660 660 600 600 540 480

420 420

360 360

300 300 240 240 180 180 120

밁

```
1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1021
                                                                                                                                                                                   1801
                                                                                                                                                                                                                                                                                                                                             1681
                                                                                                                                                                                                                                                                                                                                                                                   1621
                                                                                                                                                                                                                                                                                                                                                                                                                          1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1201
                           1921
                                                                                                                                             1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                 GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                            ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                          TCGGATATCTTGGCCCCCCAGACCTCTACCCCCTTCCCTGACCAGCAGCTGGTATTTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGCAAGCGATTGGATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCAGCGTGCCCAGCGTGCAGCCGTTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                         AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                           CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGGGGGCCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                     GCCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                        ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                     TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTTTCCACCAGCAGCAGCACCTCACGAAGTCTGGCTGGCCTTGAGGGCTTGAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAACCTGTCCCTGCTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACCACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                      1920
                                                                                                                                             1860
                                                                                                                                                                                   1860
                                                                                                                                                                                                                                                                1800
                                                                                                                                                                                                                                                                                                                                             1740
                                                                                                                                                                                                                                                                                                                                                                                                                            1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1020
                                                                1920
                                                                                                                                                                                                                          1800
                                                                                                                                                                                                                                                                                                                                                                                     1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1020
```

8 B 8 B 8 B 8 B 8 B

δ

S

당

밁

8 8 8 8 8 8 8 8 8

```
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 4
AX278461
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                       SGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 1
AX278461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Identification of a dual specificity Patent: WO 0177340-A 1 18-OCT-2001; MERCK PATENT GmbH (DE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Duecker, K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AX278461.1 GI:16605915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sapiens
               /proteIn_id="CAD10545.1"
/db_xref="03:16605916"
/db_xref="03:16605916"
/db_xref="03:16605916"
/db_xref="03:16605916"
/db_xref="%ERTREMBL.CAD10545"
/translation="MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILE
AININCSKLMKRRLQODKVLLTELIOHSAKHKVDIDCSGKVTVVPDQSSQDVASLSSDC
FLTVLLGKLEKSFNSVHLLAGGFRAFFSRCFFGLGEGKSTLVPTCISGPCLPVANIGPT
RILPNILYLGCQRDVLINELMQQNGIGYVLNASNTCFKDPIPESHFLRVPVNDSFCEK
ILPNILDKSVDFIEKAKASNGCVLVHCLAGISRSATIALYHIKKRNDMSLDEAYRFVKE
KRPTISPNNFLGQLLDYEKKIKNQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSE
KRPTISPNNFLGQLLDYEKKIKNQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSE
KRPTISPNNFLGQLSTSGAAGQRPVHPASVPSVPSVLLEDSSPLVALSGLHISADRLED
SNKLKRSFSLDIKSVSYSASMAASLHGFSSSEDALEYYKPSTTLDGTNKLCQFSPVQE
LSEQTPETSPDKEEASIFKKLQTARPSDSQSKKLHSVRTSSGTAQRSLLSPLHRSGS
VEDNYHTSPLFGLSTSQQHLTKSAGIGLKGMHSDILAPQTSTPSLTSSWFFATESSHF
YSASAIYGGSASYSAYSCSQLETCGDQVYSVRRRQKPSDRADSRRSWHBESPFEKQFK
RRSCQMEFGESIMSENRSREELGKVGSQSSFSGSMEIIEVS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                      /db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                        /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                 /note="unnamed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Homo sapiens"
/mol_type="unassigned DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3059 bp
from Patent WO0177340.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .3059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1995
                                                                                                                                                                                                                                                                                                                                                                                                              protein product"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 phosphatase: dusp-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-NOV-2001
```

밁 Ś 밁 Ś 밁 Ś В S 망 δ Best Local Query Match Matches 1993; 241 307 367 181 247 121 187 127 61 ب Similarity CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC Conservative 99.8%; .. Score 1991.8; Pred. No. 0; Mismatches B 2; 6 Indels Length 3059 0 Gaps 186 426 300 366 240 306 180 246 120 6 0

8 8 8 8 8 8 8 8

중 유

중 유

Ś

301

GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG

```
GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                               a A G C T A T G C C A G T T C T C C C C T G T T C A G G A A C C A G T C C C G A A A C C A G T C C T
                                                                                                                                   AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                         AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          c ceredried he da da de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGCAGAATGGGATTGGTTAATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     dead the the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1440
                                                                                                                                                                                                                                                                                              1386
                                                                                                                                                                                                                                                                                                                                        1260
                                                                                                                                                                                                                                                                                                                                                                                     1326
                                                                                                                                                                                                                                                                                                                                                                                                                               1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1026
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  486
                                무
                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 5
AX441210
LOCUS
DEFINITION
ACCESSION
VERSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                              ORIGIN
                                                                                                                Query Match
Best Local S
Matches 1993
                                                                                                                                                                                                                                                                                                        FEATURES
source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                           562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1807
                                                                     μ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1627
                                                                                                        Similarity 99.9
93; Conservative
                                                                                                                                                                                                                                                                                                                                   Luche, R.M. and Wei, B.
Dsp-16 dual-specificity phosphatase
Patent: WO 0226997-A 1 04-APR-2002;
Ceptyr, Inc. (US)
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AX441210 3496 bp
Sequence 1 from Patent W00226997,
AX441210 GI:21665766
ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTTGGTGGCTCTGCTGGAA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     réddararerredecececkádacereracecerrecerdaceadeaderderarrrrdece
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTTTCCACCAGCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGGACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                        /organism="Homo sapiens"
/mol_type="unassigned DN
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                Location/Qualifiers
1. .3496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GI:21665766
                                                                                                                            99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2121
                                                                                                   Score 1991.8;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                         Craniata; Vertebrata; I
Catarrhini; Hominidae;
                                                                                                                                                                                                                                            DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DNA
                                                                                                                                                DB
                                                                                                                                                <u>ه</u>.
                                                                                              Indels
                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Euteleostomi;
; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PAT
```

1986 1860 1926 1800 1866

1806 1680 1620 1686

28-JUN-2002

1027 961

967

상 유 양

781 847 721 787 661

Ś 밁 Ş

601

667 541 607 481 547

727

8 8 В

Ş

유 성

421 487

Ъ δ 9

427

В Ş 밁 Ş B Ś 밁 Ś 밁 Ş В Ś В Ş 밁 Ş 닭 S В

> 1387 1261 1327 1201 1267 1141 1207 1081 1147 1021 1087

1381

621

B 8 B 8 B 8 B

Ş

961 GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCTCAGTCCACCC 1020	61 AGTIGGAACGGAAAAAGTGCTGCTTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120
RESULT 6 AB0521.56 LOCUS DEFINITION ACCESSION VERSION VERYWORDS SOURCE ORGANISM REFERENCE	B & B & B & B & B & B & B & B & B & B &
SULT 6 052156 052156 052156 CUS AB052156 AB052156 FINITION Homo sapiens MKP-7 mRNA for MAPK phosphatase-7, complete cds. CESSION AB052156.1 GI:13548676 VMCRDS URCE Homo sapiens (human) ORGANISM Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.	1141 AGTGGGCTGCACCTTCCGCAAAAAGGCTGSAAGACGAATAAGCTCAAGCGTTCCTTC 1200 1702 AGTGGGCTGCACCTTCCGCAGAACGGTTGCTTCAAGCGTTACATTACTTC 1201 1201 TCTCTGGATATCAAATCAGTTTCATTCAGCTTCAAAACCATTGGCTTCCTTC

음 성 음 성 음

ঠ 🖁 ঠ

8 8 8 8 8 8 8

ঠ 🖁 ঠ

8 8 8 8

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 99.8%;
Best Local Similarity 99.9%;
Matches 1993; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                361
                                                                                                                                                864
                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                      804
                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                           744
                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ш
                               CTTGCAGGTGGGTTTGCTGAGTTCTCTCGGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                   GACTGTTŤTĊTĊĀĊŤĠŦĀĊŤŦĊŦĠĠĠŦĀĀĀĊŤĠĠĀĠĀĀĠĠĊŤŤĊĀĀĊŤĊŤĠŤŦĊĀĊĊŤĠ
                                                                                                                                                     GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                         réchérchéghhégritérhertracéhrehhhécricéchhéhretréccricircricirche
                                                                                                                                                                                                                                                      ĊĀĊĀTŦŦŦĠĠĀĀĠĊĊĀŦŦĀĀŦŖŦĊĀĀĊŦĠĊŦĊĊĀĀĠĊŦŦĀŦĠĀĀĠĊĠĀĀĠĠŦŦĠĊĀĀĊĀĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Zerbases 1 to 3521)

Masuda, K., Shima, H. and Kikuchi, K.

Direct Submission

Submitted (05-DEC-2000) Kouhei Masuda, Institute for Genetic Medicine, Division of Biochemical Oncology and Immunology; kita-ku kital5-jou nishi7-tyoume, Sapporo, Hokkaido 060-0815, Japan (E-mail:kou@imm.hokudai.ac.jp, Tel:81-11-706-5536,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTGCTGGTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               J. Biol.
21486429
11489891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Masuda,K., Shima,H., Watanabe,M. and Kikuchi,K. MKP-7, a novel mitogen-activated protein kinase functions as a shuttle protein U. Biol. Chem. 276 (42), 39002-39011 (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="MKP-7"
/gene="MKP-7"
/codon_start=1
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/protein_id="MAB40814.1"
/brotein_id="MAB40814.1"
/brotein_id="MAHHBMIGTQOVTERLVALLESGTEKVLLIDSRPFVEYNTSHILE
AIMINCSKLMKRELQODKVLITELIQHSAKHKVIDCSSQVIVVYVDQSSQDVASLSSDC
FLTVLLGKLEKSFNSVHLLAGGFALEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGFT
ILPHLDKSVDFIEKAKASNGCVLVHCLAGISKATIALFX LMKRMIMSLDBAYRFVKE
TRLSPPCADSATSEAAGGRPVHPASVFSVPSVPSVPSTISKENTAFVNDSFCEK
KRPTISPNFHFLGQLDYEKKIKNQTGASGFKSKIKLLHLEKPNEPVPAVSEGGKSE
SNKLKRSFSLDIKSVSYSASAMASLHGFSSSEDALFYXFSTTLDGTNKLCQFSPVQE
USDNYHTSFLFGLSTSQOHLTKSAGLGKKBDILAFYTESSTTLDGTNKLCQFSPVQE
VSASAIYGGSASYSAYSCSQLFTCGDQVYSVRRRQKFSDRADSRRSWHEESSHF
RRSCQMEFGESIMSENRSREELGKVGSQSSFSGSMEIIEVS"
RRSCQMEFGESIMSENRSREELGKVGSQSSFSGSMEIIEVS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /gene="MKP-7"
564. .2561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/chromosome="12"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 _line="Jurkat"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 1991.8;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                      863
                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                  743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                      Ś
                                                                                                                                  맑
                                                                                                                                                                         S
                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    $
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                            1441
                                                                                                                            1944
                                                                                                                                                                                                                                     1884
                                                                                                                                                                                                                                                                                        1321
                                                                                                                                                                                                                                                                                                                                          1824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                               AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGCAGTGGCACCGCCCAGAGGGTCCCTTTTA
                                                                                                AĞCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCCTTTTA
                                                                                                                                                                                                           AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAAACCAGTCCT
                                                                                                                                                                                                                                          AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          924
                                                                                                                                                                                                                                                                                                              récréaréagaagargerriggaaractacaaacerrécaeracreggargegaceaae
                                                                                                                                                                                                                                                                                                                                                   TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC 1320
                                                                                                                                                                                                                                                                                                                                                                                                                 referedáráreaaáreagrifeárárreageeagearegeafeearectriacáregetrie 1823
                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rerecceác rereceira en la maria de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación del comparación de la comparación de la comparación de la comparación de la comparación de la comparación de la comparación 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAACCTGTCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ĊĀĠĀĊĪĠĠĀĠĊĀĪĊĀĠĠĠĊĊĀĀĀĠĀĠĊĀĀĀĊĪĊĀĀĠĊĪĠĊĀĊĊĪĠĠĀĠĀĀĀĠĊĊĀĀĀŢ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGGACCTGGAGGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ataterecanaetrenaritricies seconaetre et sa caracitation de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la companion de la
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                chadredacterradecregearcrecederededecaccarederaredecracareare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCCATCGCTATCGCCTACATCATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGTGGTTGGACAĀĀŤĊĀĠŦĀĠĀŤŤŤĊĀŤŤGĀGĀĀĀĠĊĀĀĀĀĠĊĊŤĊĆĀĀŤĠĠĀŤĠŤĠŤŤ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGCAGAATGGGATTGGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACAFTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                  1500
2063
                                                                                                                                                                                                           1943
                                                                                                                                                                                                                                                           1380
                                                                                                                                                                                                                                                                                                                 1883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1043
```

CDS	REFERENCE AUTHORS TITLE JOURNAL FEATURES BOUICE	RESULT 7 AX260340 LOCUS DEFINITION ACCESSION VERSION VERSION KEYWORDS SOURCE ORGANISM			0y 18	Oy 16 Db 22 Oy 11	Qy 150 Db 206 Qy 156 Db 212 Qy 162
Xrêf="taxon:9606" 2586 es "unnamed proteir of fiel CAD10218 xref="G1:16509304' xref="REMTREMBL:CJ xref="REMTREMBL:CJ xref="REMTREMBL:CJ xref="REMTREMBL:CJ xref="REMTREMBL:CJ xref="REMTREMBL:CJ xref="REMTREMBL:CJ xref="REMTREMBL:CJ xref="REMTREMBL:CJ xref="MAHEMIG] xref="REMTREMBL:CJ xref="REMTREMBl:Cj xref="REMTREMBL:Cj xref="REMTREMBL:Cj xref="REMTREMBL:Cj xref="REMTREMBL:Cj xref="REMTREMBL:Cj xref="REMTREMBL:Cj xref="REMTREMBL:Cj xref="REMTREMBL:Cj xref="REMTREMBL:Cj xref="REMTREMBL:Cj xref="REMTREMBl:Cj xref="REMTREMBl:Cj xref="REMTREMBl:Cj xref="REMTREMBl:Cj xref="REMTREMBl:Cj xref="REMTREMBl:Cj xref="REMTREMBl:Cj xref="REMTREMBl:Cj xref="REMTREMBl:Cj xref="REMTREMBl:Cj xref="REMTREMBl:Cj xref="REMTREMBl:Cj xref="REMTREMBl:Cj xref="REMTREMBl:Cj xref="REMTREMBl:Cj xref="REMTREMBl:Cj xref="REMTREMB	Meyers,R.A. 38692 and 211 therefor Patent: WO 01 Millennium Ph Loca 1. //ora	AX260340 Sequence 1 from Patent WO0173059. AX260340 AX260340.1 GI:16509303 Homo sapiens (human) Homo sapiens Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Bukaryota; Metazoa; Craniata; Vertebrata; Homo.			2304 GCCTACAGCTGCAGCAGCTGCCCAATTGGAAAGTCTATATTCTGTCAGAGAAAC 1920 1801 CAGAAGCCAAGTGACAGAGCTGACCTGCGGGGGGGCTGGCATGAAAGAGCCCCTTTGAA 1860	1681 ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT 1740	1501 TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCACGCTTCCTTTTCGGC 1560
8 8 8 8 8 8	D Q D Q	5	Q D	& & &	D	Dy Oy	ORIGIN Query Best L Matche
721 CTAGTG 1309 CTAGTG 781 AAGAGG 1369 AAGAGG 1369 AAGAGG 1187CT 1429 ATATCT 1429 ATATCT 1 1429 ATATCT 1	1129 CAGCAG 601 ATCCCC 1189 ATCCCC 661 CCGTGG 1249 CCGTGG				121 CACATT 709 CACATT 181 GACAAA 769 GACAAA	589 ATGGCG 61 AGTGGA 649 AGTGGA	IGIN Query Match Best Local Similar Matches 1993; Con

SNKLKRSFSLDIKSVSYSASMAASLHGFSSSEDALEYYKPSTTLDGTNKLCQFSPVQE LSEQTPETSPDKEEASIPKKLQTARPSDSQSKRLHSVRTSSSGTAQRSLLSPLHRSGS VEDNYHTSFLFGLSTSQQHLTKSAGLGLKGMHSDILAPQTSTPSLTTSSMYFATESSHF YSASAIYGGSASYSAYKGCSQLPTCGDQYYSVRRRQKFSDRADSRRSMHEESPFEKQFK RRSCQMEFGESIMSENRSREELGKVGSQSSFSGSMEIIEVS"

IGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATCATCATCATG GGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCCTCCAATGGATGTGTT SITTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG arity TTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT TCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAATTAAGAAC TCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC GGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT CCAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG \GAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCCTGACTTT AGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT TTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540 AGICCCTACCIGCATITCICAGCCTIGCTTACCIGTIGCCAACATIGGGCCAACC 1068 AGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC AGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC aagtgttaattacagagctcatccagcattcagcgaaacataaggttgacattgat TTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180 ;AACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC ;hacggaaaaagtgctgctaattgatagccggccatttgtggaatacaatacatcc onservative CGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG TCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG 1128 AGGIGGGITIGCIGAGITICICICGITIGITITCCCIGGCCICIGIGAAGGAAAAICC 1008 TTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 99.8**%**; Score 1991.8; Pred. No. 0; 0; Mismatches , , BG ۲ ۲ 6, Length Indels 3544; 0, Gaps 1488 1428 1368 480 960 900 1308 1248 1188 600 420 888 300 240 648 840 780 720 660 948 360 828 768 708 120 60 0

음청

```
1861
                                                                                                                                                                                                                                                                                               2329
                                                                                                                                                                                                                                                                                                                                   1741
                                                                                                                                                                                                                                                            1801
                                                                                                                                                                                                                                                                                                                                                                      2269
                                                                                                                                                                                                                                                                                                                                                                                                           1681
                                                                                                                                                                                                                                                                                                                                                                                                                                             2209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               961
                          ATCATTGAGGTCTCC
                                                                                    AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                      AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                              CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCTTTGAA
                                                                                                                                                                                                                                       CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                     GCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                            ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                    TCGGATATCTTGGCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCCTGACCAGCAGCTGGTATTTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTTTCCACCAGCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC 1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTCCACTGCATCGAAGTGGGAGGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCAGCATCCTTACATGGCTTC 1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCCAGCGTGCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCAGCGTGCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGGGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAACCTGTCCCTGCTGCTCAGAGGGTGGACAGAAAAGCGAGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                 CTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                  1995
2583
                                                                                                                                                                             1920
                                                                                                                                                                                                                                                  1860
                                                                                                                                                                                                                                                                                                                          1800
                                                                                                                                        2508
                                                                                                                                                                                                                2448
                                                                                                                                                                                                                                                                                       2388
                                                                                                                                                                                                                                                                                                                                                              2328
                                                                                                                                                                                                                                                                                                                                                                                                 1740
                                                                                                                                                                                                                                                                                                                                                                                                                                      2268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1548
```

유 성

8 8 8 8 8 8 8

δ 밁 5 밁 Ş 뭐 á 맑 Ś 밁 Ş 밁 Ś 밁 Ś 밁 Ş 밁 Ş 밁 Ś 밁 Ś

8 8

693 121

CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG

180

752

AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC

```
Ś
                                                   В
                                                                                     5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
PUBMED
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 8
AF506796
LOCUS
                                                                                                                                 Query Match
Best Local S
Matches 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDS
                                                     633
            61
                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Direct Submission

Direct Submission

Submitted (26-APR-2002) Department for Human Genetics-Flanders

Submitted (76-APR-2002) Department for Human Genetics-Flanders

Interuniversity Institute for Biotechnology (VIB), Katholieke

Thivargineit Leuven, Herestraat 49, Leuven B-3000, Belgium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Universiteit Leuven, Herestraat 49,
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hoornaert, I., Marynen, P., Goris, J., Sciot, R. and Baens, M. MAPK phosphatase DUSP16/MKP-7, a candidate tumor suppress chromosome region 12p12-13, reduces BCR-ABL-induced trans Oncogene 22 (49), 7728-7736 (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; 1 (bases 1 to 3566)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens dual specificity complete cds. AF506796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hoornaert,I.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AF506796.1 GI:25573087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         14586399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens (human)
AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                    ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (bases 1 to 3566)
                                                                                                                                 Conservative
                                                                                                                                                                                                                      /translation="MAHEMIGOOUTERLVALLESGTEKVILIDSRPFVEYNTSHILE
AININCSKLMKERLOODKVLITELIOHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDC
FLTVLLGKLEKSFNSVHLLAGGFRAEFSRCFFGLCEGKSTIVPTCISQPCLPVANIGFT
RILPHLYLGCCRDVLINEELMQQNGIGYVLNASNTCPKPDFIPBSHFLKVPVNDSPCEK
ILPHLDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDBAYRFVKE
KRPTISPNIPLGQLLDYEKKIKNQTGASGFKSKLKLLHLEKPMEPVPAVSEGGQKSE
TPLSPPCADSATSEAAGORPVHPASVPSVPSVPSLLEDSPLVQALSGHLKSARTLED
SNKLKRSFSLDIKSVSYSASMAASLHGFSSSEDALEYYKPSTTLDGTNKLCQFSPVQB
LSEQTPETSPDKEEAGIFKKLQTARFSDSQSKRLHSVRTSSGGTAQRSLLSPLHRSGS
VEDNYHTSFLFGLSTSQQHLTKXSAGIGLKGKHSDILAPQTSTPSLTSMYFATESSHF
YSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRRQKPSDRADSRRSWHBESPFEKQFK
RRSCQMEFGESIMSENRSREELGKVGSQSSFSGSMEIIEVS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /gene="DUSP16"
/EC_number="3.1
/EC_number="3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="synonym: 633. .2630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product="dual specificity phosphatase
/protein_id="AAN75120.1"
/db_xref="G1:25573088"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /gene="DUSP16"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         map="12p13-p12"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          chromosome="12"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .3566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          _number="3.1.3.48"
_number="3.1.3.16"
                                                                                                                                                  99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Marynen, P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    _type="bone marrow"
                                                                                                                             Score 1991.8;
Pred. No. 0;
0; Mismatches
                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MKP7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3566 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              and Baens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       bp mRNA linear PRI 30-OCT-2003
phosphatase 16 (DUSP16) mRNA,
                                                                                                                                                                        DΒ
                                                                                                                             2;
                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hominidae;
                                                                                                                               Indels
                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           suppressor for
ed transformation
                                                                                                                           0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Euteleostomi;
                                                                                                                           Gaps
    120
                                              692
                                                                                       60
                                                                                                                           0,
```

TITLE Protein phosph JOURNAL Patent: WO 021 Incyte Genomic	1201 TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC 1260 	B 8
	1141 AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC 1200 	8
ORGANISM Homo sapiens Eukaryota; Met Mammalia; Euth	1081 CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCGGCTGGTACAGGCGGCTC 1140	음 성
ACCESSION AX374994 VERSION AX374994.1 GI KEYWORDS SOURCE Homo sanians (1021 TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG 1080	B 8
	961 GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC 1020	B 8
Db 2613 ATCATTGAGGTC	901 CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT 960 	용 성
2553	841 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC 900 	8 8
2493	781 AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAAA	B 8
	721 CTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCACCATCGCTATCGCCTACATCATG 780	<u> </u>
	661 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT 720 	용 성
2313	601 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG 660	음 <i>성</i>
- N 1	541 CAGCAGAATGGGATTGGTTATATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT 600	B 8
	481 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540	용 성
2133	421 ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC 480	유 성
2073	361 CITGCAGGIGGGIITGCIGAGIICTCICGIIGIITTCCCTGGGCTCTGIGAAGGAAAAICC 420 	음 성
2013	301 GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG 360 	<u> </u>
	241 TGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCCTCTCTCT	용 성
1893	181 GACAAAGTGTTAATTACAGAGCTCATCCAGCGTTCAGCGAAACATAAGGTTGACATTGAT 240 	B 8
Qy 1261 TCCTCATCAGAA	753 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 812	皮

```
lliott, V.S., Ramkumar, J., Yao, M.G., Burford, N., tewart, E.A., Gandhi, A.R., Patterson, C., Lee, E.A., Lu, D.A., Tribouley, C.M., Griffin, J.A., Baughn, M.R., en, Ba., Nguyen, D.B. and Walia, N.K. phatases 210363-A 17 07-PEB-2002; ics, Inc. (US)
                                                                                                                                tazoa; Chordata; Craniata; Vertebrata; Euteleostomi; .heria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                      CTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                               GGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | CCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                  I:19169826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rom Patent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rgacagagetgaetegeggggggetggeatgaagagageeeetttgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                  2627
                                                                                                                                                                                                                                                3766 bp
WO0210363.
                                                                                                                                                                                                                                                                  DNA
                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                  PAT 01-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1320
```

ORIGIN ATTECHMENT ORIGIN ORIGIN ATTECHMENT ORIGINATION AND AND AND AND AND AND AND AND AND AN	FEATURES Incation (2)
DE 1438 CHANCETRICCCETTORANGETROALCEMANICAMENTALISMENT 1437 OY 961 GAACCTRICCCETTORANGETROALCEMANICAMENT 1437 OY 1438 GAACCTRICCCETTORANGETROALCEMANICAMENT 1437 OY 1438 GAACCTRICCCTCCTCTCTCAAAAAAAAAAAAAAAAAAAAA	

96 97 98 98 98 98 98 98 98 98 98 98 98 98 98	QV B QV B QV	B & B &	7 2	FEATURES BOUTCE	COMMENT	REFERENCE AUTHORS TITLE JOURNAL	BD171157 LOCUS DEFINITION ACCESSION VERSION KEYWORDS SOURCE ORGANISM	Db RESULT 10
	181 GACAAAGTGTTAATTACAGAGGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAC 240	61 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120	Match 99.8%; Score 1991.8; DB 6; Length 4790; Local Similarity 99.9%; Pred. No. 0; Les 1993; Conservative 0; Mismatches 2; Indels 0; Gaps 0; 1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60	FH Key (184)(2178). FT CDS (184)(2178). Location/Qualifiers 14790 CCe /organism="Homo sapiens" /mol_type="genomic_DNA" /db_xref="taxon:9606"	Homo sapiens (human) WO 02052005-A/13 04-JUL-2002 20-DEC-2001 WO 2001JP011217 22-DEC-2000 JP 00P 389742 0SAMU OHARA, TAKAHIRO NAGASE, DAJ C12N15/12, CO/K14/47	Mammalia, Eutheria, Frinates, Catarrhini, Hominidae, Homo. 1 (bases 1 to 4790) 3 (bhara,O., Nagase,T. and Nakajima,D. Novel gene and protein encoded thereby Patent: WO 02052005-A 13 04-JUL-2002; KAZUSA DNA RESEARCH INSTITUTE,OSAMU OHARA,TAKAHIRO NAGASE, DAISUKE NAKAJIMA	BD171157 Novel gene and protein encoded thereby. BD171157 BD171157.1 GI:27876969 WO 02052005-A/13. Homo sapiens (human)	2518 ATCATTGAGGTCTCC 2532
Q B Q B Q B	Q	? B & B &	00 DD QQ	. Qy Db Ob	0 Qy	D	\$ \$ \$ \$ \$	D Qy
1564 ĠATAAĠĠAĠĠAAGCĊAĠĊATĊĊĊĊAĀĠAAĠĊŢĠĊAĠAĊĊŢĠĊAĠĠĊĊŢĠAĠĠĊĠĠĠĠĠĠĠĠĠĠ	1321 AAGCTATGCCAGCATCCCCCCCCTGTTCAGAACCTATCGGAGCCAGCC	1 4 4 4	4 4 4 4	901 CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT	781 AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAAA	721 CTAGTGCACTGTTTAGCTGGGATCTCCCGCCCACCATCGCTATCGCCTACATCATG	4 4 4 4	481 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA

PD 03-DEC-2002 PP 26-FBB-2002 JP 2002043009 PF 26-FBB-2002 JP 2002043009 PF 05AMU OHARA, TAKAHIRO NAGASE, DAISUKE NAKAJIMA PC C12N15/09, C07K14/47//A61K31/711,A61K38/00,A61K48/00,A61P25/00, PC A61P25/14, ROVel genes and proteins encoded by the genes FH Key PC Novel genes and proteins encoded by the genes FH Key PC Novel genes and proteins encoded by the genes FH Key PEATURES FT CDS Location/Qualifiers [164]. (2178). PEATURES FORIGIN ORIGIN	RESULT 11 BD183422 LOCUS	Db 1744 CTTTCCACCAGCAGCACCTCACCAAGTCTGCTGCGCAGCAGCACCTCACCAAGTCTGCCCTGCACCAGCAGCACCTCACCAAGTCTGCCCTGCACCAGCAGCACCTCACCAAGTCTGCCCTGCACCAGCAGCAGCAGCACCAGCACCAGCAGCAGCAGCAG
Oy 781 AAGAGGATGGACATGTCTTTAGATGAACTTACAGATTTGTGAAAAAAGACCTACATCATCATCATC Db 964 AAGAGGATGGACATGTCTTTAGATGAACTTACAGATTTGTGAAAAAAAA	5 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	24 12 12 30 18 18 18 18 18 18 18 18 18 18 18 18 18

```
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                  RESULT 12
AB051487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                       뮵
                                                                                                                                                                                                                                                                                                                  ঠ
                                                                                                                                                                                                                                                                                                                                                                        ર્
                                                                                                                                                                                                                                                                                                                                                                                                                              ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              $
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
 REFERENCE
                                                                                                                     POCUS
                                                                                                                                                                                        2164
                                                                                                                                                                                                                                                                                                                                                                                                            1924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1444
                                                   Homo
         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                            Homo sapiens mRNA
AB051487
                                      Homo sapiens
                                                                               AB051487.1
                                                                                                                     AB051487
                                                                                                                                                                                                        ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                             AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                 AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                     GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCGGATATCTTGGCCCCCCAGACCTCTACCCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                      AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                   AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                       CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                            GCCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTGGGCTGCACCTGTCCGCAGACAGACAGGCTGGAAGACAGCAATAAGCCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                   sapiens
                                                                               GI:12697944
                                                   (human)
                                                                                                         for KIAA1700
                                                                                                                     ď
                                                                                                       protein,
                                                                                                                    mRNA
                                                                                                      partial
                                                                                                                   linear
                                                                                                          cds
                                                                                                                                                                                                                                                                        1980
                                                                                                                                                                                                                                                                                                                           1920
                                                                                                                                                                                                                                                                                                                                                                                 1860
                                                                                                                                                                                                                                                                                                                                                                                                            1983
                                                                                                                                                                                                                                                                                                                                                                                                                                       1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1440
                                                                                                                                                                                                                                             2163
                                                                                                                                                                                                                                                                                                 2103
                                                                                                                                                                                                                                                                                                                                                      2043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
TITLE
                 S
                                                   밁
                                                                         ð
                                                                                                                           5
                                                                                                                                                            밁
                                                                                                                                                                                  Ś
                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                      문
밁
                                                                                                       밁
                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 1993; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                      301
                                                   424
                                                                                                       364
                                                                                                                                  181
                                                                                                                                                             304
484
                                                                              241
                                                                                                                                                                                       121
                                                                                                                                                                                                                244
                                                                                                                                                                                                                                                                        184
                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                   \vdash
              GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                      GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                           CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGGAATACAATACATCC
                                                                                                                                                                                                                                                                                      GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                          GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                             CACATTITIGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                  AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                        ATGGCCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                      99.8%;
```

0; Score Pred.

Mismatches 1991.8; No. 0;

DВ ۲. 9

Length

..

Gaps

543 360 483 300 423

```
2 (bases 1 to 4790)

2 (bases 1 to 4790)

Chara, O., Nagase, T. and Kikuno, R.

Direct Submission

Submitted (22-NOV-2000) Osamu Ohara, Kazusa DNA Rsearch Instantinent of Human Gene Research; 1532-3, Yana, Kisarazu, 292-0812, Japan (E-mail:cdnainfo@kazusa.or.jp, URL:http://www.kazusa.or.jp/huge, Tel:81-438-52-3913,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nagase, T., Kikuno, R., Hattori, A., Kondo, Y., Okumura, K. and Ohara, O. Prediction of the coding sequences of unidentified human genes.

XIX. The complete sequences of 100 new cDNA clones from brain which code for large proteins in vitro
DNA Res. 7 (6), 347-355 (2000)

11214970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fax:81-438-52-3914)
                         /product="KIAA1700 protein"
/product="KIAA1700 protein"
/protein id="BAB21791.1"
/db_xref="01:12697945 "
/db_xref="01:12697945 "
/translation="AFEHTTITSSWQIKEGGGKRGLIVVMAHEMIGTQIVTERLVALL
ESGTEKVLLIDSRPFVENTSHILEALNINCSKLMKRELQOKVLITELIQHSAKHKV
DIDCSGKVVVVYDQSSQDVASLSSDCFLTVLIGKLEKSINSVHLLAGGFABFSRCFPGL
CEGKSTLVPTCISQPCLPVANIGFTRILPNLYLGCDRVLNKELMQQNGIGYVLNASN
TCPKEDPIPESHFLKVVNDSFCEKILFWLDKSVDFIEKAKASNGCVLVHCLAGISRS
ATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYBKKIKNQTGASGPKS
KLKLLHLEKPMEPVPAVSEGGGKSETPLSPPCADSATSBAAGQRRVHPASVPSVPSVQ
PSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASAMAASLHGFSSSED
ALEYYKPSTTILDGTNKLCQFSPVQELSEQTPTSFSPKEEASIPKKLQTARPSDSQSKR
LHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGILGKGHHS
DILAPQTSTSSLTSSWFFATESSHFYSASAITGGSSAYSAYSGSQLFTCGDQVYSVRR
DILAPQTSTSSLTSSWFFATESSHFYSASAITGGSSAYSAYSGSQLFTCGDQVYSVRR
RQKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="fj15353"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /gene="KIAA1700"
/note="Start codon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     <109. .2181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /gene="KIAA1700"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="vector:pBluescriptII SK plus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             organism="Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     . .4790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .4790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                not
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   identified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Institute,
```

유 B δ 뮍 5 유 성

AX180875 AX180875 AX180875 DEFINITION Sequence 2 from Patent WO0146394. VERSION AX180875.1 GI:15132703 EXPRORDS SOURCE ORGANISM Homo sapiens Eukaryota, Metazoa; Chordata; Craniata, Vertebrata; Buteleostomi; AUTHORS AUTHORS AUTHORS AUTHORS AUTHORS FORMMANIAL FEATURES SOURCE AUTHORS AUTHORS AUTHORS AUTHORS AUTHORS AUTHORS SOURCE AUTHORS AUTHORS AUTHORS AUTHORS AUTHORS AUTHORS SOURCE AUTHORS AUTHORS AUTHORS AUTHORS AUTHORS AUTHORS SOURCE AUTHORS AUTHORS AUTHORS AUTHORS AUTHORS AUTHORS AUTHORS SOURCE AUTHORS AUT	Db 1624 AGCAMGCGATTGCATTCGGTCAGAACCAGCAGCAGCAGCAGAGGTCCCTTTTA 1500 1624 AGCAMGCGATTGCATTCGGTCAGAACCAGAGCAGCAGCAGCAGCAGAGGTCCCTTTTA 1683 1501 TCTCCACTGCATCGAAAGTGGGAACCAGCAGCAGCAGCAGCAGCAGCAGCAGCTCCTTTTA 1683 1501 TCTCCACTGCATCGAAAGTGGGAGGACAATTACCAACCAGCAGCAGCTCCTTTTA 1683 1501 TCTCCACTGCATCGAAGTGGGAGGACAATTACCAACCAGCAGCTTCCTTTTA 1683 1501 TCTCCACTGCATCGAAGTGGGAGGACAATTACCACACCAGCTTCCTTTTAGGCCTGGCC 1560 TCTTTCCACCAGCAGCAGCACCACCACCAGCTTGGCCTGGGCCTTAAGGGCTGGCAC 1620 1744 CTTTCCACCAGCAGCACACCACCACCACCTTGGCCTTGGGCCTTGAGGGCTGGCAC 1620 1745 TCTGGATATCTTGGCCCCCCAGACCTCTACCACTTCGCTGGGCCTTAAGGGCTGGCAC 1620 1621 TCGGATATCTTGGCCCCCCAGACCTCTACCACTTCCCTTGACCAGCAGCTGTAATTTTGCC 1680 1804 TCGGATATCTTGGCCCCCCCAGACCTTCCCTTGCCTTAAGGGCTGGTATTTTGCC 1680 1804 TCGGATATCTTGGCCCCCCAGACCTTCCCTTGCCTTAAGGGCTGGTATTTTGCC 1680 1804 TCGGATATCTTGGCCCCCCAGACCTTCCCTTGCCTTAAGGACTGGCAAGTTTTTCCT 1740 1804 TCGGATATCTTGGCCCCCCAGACCTTCCCTTGCCTTAAGGACTGCAAGTTTTTCCT 1740 1804 TCGGATATCTTGCCTCCACACTTCTCCCTTACGAGCAGCTGGCAAGTTTTTCCT 1740 1804 TCGGATATCTTGCCTCCACACTTCTCCCTTACGAAGCAGCAGCTGGCAAGTTTTTCCT 1740 1804 ACAGAGTCCTCACACTTCTACTCTGCCTCACACTCTAACGAAGCAGCAGTTACTCT 1740 1804 ACAGAGTCCTCACACTTCTACTCTGCCTCACACTCTAACGAAGCAGCAGTTACTCT 1740 1804 ACAGAGTTCAACCCAAGCTTCTACTCTGCCTCACACTCTAACGAAGCCCAAGTCTATTCTTTTCTTTTCTGCCCAAGCCGG 1890 1924 GCCTTACACCTGCAAGCCTGCCCAATTCTACGCAAGAGCCCCTTTTGAA 1860 1924 GCCTTACACCCAAGTCTACACTCTACCCGAGCCGGAGGCCAAGTCTAATCTGGCAAGAGCCCCTTTTGAA 1860 1924 GCCTACAGCCAAGTCTACACGAAGCTTGCCAAATTTGGAAAGAAGCCCCCTTTTGAA 2043 1811 AAGCAGTTTAAACGCAGAAAGCTGCCAAATTGGAAATTTTGGAGAAGAAGCCCCCTTTGAA 2043 1811 AAGCAGTTTAAACGCAGAAAGCTGGCAAAATTGGAAATTTTGGAGAAGAACCAAGAACC 1920 1921 AGGTCACGGGAAAGTCGCCAAAATTGGAAATTTTGGAGAAGAACCACCAAGAACC 1920 1921 AGGTCACGGGAAAGCCTGGGGAAAAGTGGAAATTTGGAGAAGAACCACCAAGCAATTGGAAACCAAGAACCTGGGAAAAGTGGAAAATTTGGAGAAGAACCACCAAGCAATTGGAAACCAAGAACCTGGGAAAAGTGGAAAATTTGGAGAAGAACCATCATGTCAAAAAACCAAGAAACTTGGGAAAAGTGGAAAATTTGGAGAAAGTTTTCGGGCAAGCAA

Ş B δ В Ś В 5 멍 Ş 9 Ś Д Ś Б 8 В 5 В Ş 뭐 Ş 片 Ś 밁 δ Дb 5

961 GAACCTGTCCCTGCTGTTCTCAGAGGGTGGACAGAAAAGCGAGACCCCTCAGTCCACCC 1020	AGTGGAAAGGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTTGTGGAATACAATACAATACATTCG B AGTGGAACGGAAAAAGTGCTGCTGATATTCAACTGCTCCAAGCTATTGAGAGCGAATTACAATACATTCC CACATTTTGGAAGCCATTAATTACAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG CACATTTTGGAAGCCATTAATTACAAGTCCACCATTCAAGCCTAAGACTTATGAAGCGAAGGTTGCAACAG CACATTTTGGAAGCCATTAATTACAAGTCCACCATTCAAGCTTATGAAGCGAAAGTTTACACTTCAT GACAAAGTGTTAATTACAAGACCTCATCCACGAAACATTTCAACTCTCTCT
RESULT 14 AX405700 LOCUS DEFINITION Sequence 11 ACCESSION AX405700 VERSION AX405700.1 KEYWORDS SOURCE Homo sapier ORGANISM Homo sapier Eukaryota; REFERENCE 1 AUTHORS Tang, Y.T.,	
3104 bp DNA linear PAT 14-JUN-2002 nnce 115 from Patent WO0222660. 7700. 7700.1 GI:21438839 sapiens (human) sapiens (Chordata; Craniata; Vertebrata; Euteleostomi; yota; Metazoa; Chordata; Catarrhini; Hominidae; Homo. Y.T., Liu,C., Zhou,P., Asundi,V., Zhang,J., Zhao,Q.A., Ren,F.,	GCTGCACCTGTCCCCAGACCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCA

8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8

성 옵

8 8 8 8 8

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 1992; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SdC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                        699
                                                                                                                                     541
                                                                                                                                                                                     639
                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                        579
                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                           519
                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                          CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                CAGCAGAÁTTGGÁTTÁTGTGTTÁAÁÁTGCCAGCAÁTÁCCTGTCCAÁAGCCTGACTTT
                                                                                                                                                                                     CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                             ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACACTTGGGCCAACC
                                                                                                                                                                                                                                                             ACTCTÁGTCCCTÁCCTGCÁTTTCTCÁGCCTTGCTTÁCCTGTTGCCÁÁCÁTTGGGCCÁÁCC
                                                                                                                                                                                                                                                                                                                                                             ĊŦŦĠĊĀĠĠſĠĠĠŦŦŶĠĊſĠĀĠŦŢĊſĊſĊĠŦŶĠŦŶĊĊŶſĠĠĊĊŢĊŶĠŶĠĀĀĠĠĀĀĀĀŶĊĊ
                                                                                                                                                                                                                                                                                                                                                                                           CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ĠĀĊŦĠŦŦŦŶĊŦĊĀĊŦĠŦĀĊŦŶĊŦĠĠĠŦĀĀĀĊŦĠĠĀĠĀĠĀĠĊŦŦĊĀĀĊŤĊŦĠŦŶĊĀĊĊŦĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              récadroagaagritéragritracgarcaaagcreccaagargritécerererea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ĠĀĊĀĀĠŦĠŦŦĀĀŦŦĀĊĀĠĀĠĊŦĊĀŦĊĊĀĠĊĀŦŦĊĀĠĊĠĀĀĀĊĀŦĀĀĠĠŦŦĠĀĊĀŦŦĠĀŗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Xue,A.J., Yang,Y., Wehrman,T. and Drmanac,R.T. Novel nucleic acids and polypeptides Patent: WO 0222660-A 115 21-MAR-2002; HYSEQ, INC. (US)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cacarritiggaagccarraararcaacrecreccaagcrratigaagcgaaggrigcaacag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGGCCCATGAGATGGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /Protein_id="CAD34807.1"
/Protein_id="CAD34807.1"
/db_xref="GI:21438840"
/db_xref="GI:21438840"
/db_xref="GI:21438840"
/db_xref="RI:21438840"
/translation="MAHEMIGTOLVTERLVALLESGTEKVLLIDSRPFVEYNTSHILE ALMINGSKLMKRRLAQDKVLLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDC FILTVLLGKLEKSFNSVHLLAGGFREFSRCF9ELGEKSTLVPTCISQPCLPVANIGFT ILPWLDKSVDFIEKAKASNGCYLVHCLAGISRSATIALAYIMKRMDMSLDEAXFVKE KRPTISBUNFNFIGQLLDYEKKIKNQTGASGFKSKLKLLHLEKPNEFVERVEKSFCK KRPTISBUNFNFIGQLLDYEKKIKNQTGASGFKSKLKLLHLEKPNEFVERVESGGQKSE SMCLKRSFSLDIKSVBYSASMASLHGFSSSEDALEYYKPSTTLDGTMLCQFSPVGE SMCKRSFSLDIKSVBYSASMASLHGFSSSEDALEYYKPSTTLDGTMLCQFSPVGE VEDNYHTSFLFGLSTSQOHLTKSAGLGLKGMISDILARQTSTPSLTSSWYFATESGHF VEDNYHTSFLFGLSTSQOLDTCGDQVYSVRRRQKPSDRADSRRSWHEESPFEKQFK RRSCQMEFGESINSENRSREELGKVGSQSSFSGSMEIIEVS"
                                                                                                                                                          rcccaarcirtarciriogciroccagcoadarcirccicaacaaggagcigarg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="unnamed protein product"
/codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .2156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 1990.2;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ٥,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ω
••
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                             600
                                                                                                                                                                                                                                                                638
                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                578
                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                             518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                          밁
                                                                                                                δ
                                                                                                                                                                             밁
                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                             뮍
                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                          1779
                                                                                                                                                                                                                          1561
                                                                                                                                                                                                                                                                             1659
                                                                                                                                                                                                                                                                                                                           1501
                                                                                                                                                                                                                                                                                                                                                                             1599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               109
ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                             TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC 1680
                                                regararerregececcagacereracecerrecergaceageagergarirrigee
                                                                                                                                                ĊTTTCCACCAGCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGGTGGCCTGGGCCTTAAGGGCTGGCAC 1620
                                                                                                                                                                                                                                                TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                TCTCCACTGCATCGAAGTGGGAGGGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC 1560
                                                                                                                                                                                                                                                                                                                                                                           AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGCAGTGGCACCGCCCAGAGGTCCCCTTTTA 1500
                                                                                                                                                                                                                                                                                                                                                AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCCTTTTA 1658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ĠŔŦŔĀĠĠŔĠĠŔŔĠĊĊŔĠĊŔŦĊĊĊĊŔŔĠŔŔĠĊŦĠĊŔĠŔĊĊĠĊĊŔĠĠĊĆŦŤĊŔĠŔĊŔĠĊĊŔĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT 1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAĞCTATĞCCAĞTTCTCCCCCTGTTCAĞĞAACTATCĞĞAĞCAĞACTCCCĞĞAAACCAĞTCCT 1538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                reterggatareaaareagtrieatarreageeageargeageageareerraeargeerre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCCAGCGTGCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rerecceaerrectaectrones de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la constant de la consta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGTGCCGACTCTGCTACCTCAGAGGCAGGAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGACTGGAGGATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCCAAAT 960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATATETECAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a A GA GGA T GA CAT CTTTAGAT GA A GCTTA CAGATTTGTGA A A GA A A A A A A A CTTA CT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATATCTCCCAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTAGTGCACTGTTTAGCTGGGATCTCCGGCTCCGCCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ccereerree contrate a contrate contrate a contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contrate contra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                  1778
                                                                                                                                                                                                                                                   1718
                                                                                                                                                                                                                                                                                                                                                                                                                                                     1598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          818
```

5 B Ś 맑 5

Ś	Qy Db	g Qy	B 8	유 왕	Query Match Best Local Si Matches 1991;	ORIGIN	FEATURES SOURCE	TITLE	REFERENCE AUTHORS	KEYWORDS SOURCE ORGANISM	LOCUS DEFINITION ACCESSION VERSION	RESULT 15	8 8	& 4G	B 8	B 8	g Qy	дъ
241 TGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCCAAGATGTTGCCTCTCTCT	181 GACAAAGTGTTAATTACAGAGGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240	121 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180	61 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120	1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60	/ Match 99.7%; Score 1988.6; DB 6; Length 2102; Local Similarity 99.8%; Pred. No. 0; nes 1991; Conservative 0; Mismatches 4; Indels 0; Gaps 0;	/or /mo /db	Helix Research Institute (JP); Biotechnology (JP) Location/Qualifiers 1. 2102	Tamechika, I., Seki, N., Yoshikawa, T., Otsuka, M., N Masuho, Y. Full-length cDNAs Parent EP 1293569-A 673 19-MAP-2003.	Mammalia; E 1 1 Isogai,T., Yamamoto.J.	Homo sapiens (human) Homo sapiens Eukaryota; Metazoa; Chordata;	AX713989 2102 bp DNA linear PAT 15-APR-2003 N Sequence 673 from Patent EP1293569. AX713989 4 AX713989.1 GI:29888917		1981 ATCATTGAGGTCTCC 1995 	1921 AGGTCACGGGAAGAGCTGGGGAAAGTGGGCCAGTCAGTCTAGCTTTTTCGGGCAGCATGGAA 1980	1861 AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC 1920 	1801 CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCTTTGAA 1860 	1741 GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG 1800	
														<u>.</u>	.			
B &	g 49	P &	S B 8	, B &	₽ &	P Q	d dd	용 왕	B &	р Q	η VQ	D QY	D Q	B &	B &	}	} B !	₹ ₽ .
1321 AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT 1380 [1 TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC	TCTCTGGATATCAMATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC	AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCATAAGCTCAAGGTTCCTTC	cccagcargcccagcargcagcagragagagagagagaga	1021 TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG 1080		901 CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT 960 	841 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC 900 	781 AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAAA	721 CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG 780	661 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT 720 	601 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG 660	541 CACCAGAATGGTATGTTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTT 600	GAATTCTTCCCAATCTTATCTTGGCTGCCAGGGAGATGTCCTCAACAAGGAGCTGATG		THE THE PROPERTY OF THE PROPER		296 IGCAGICAGAAGGITIGIAGITIACGAICAAAGCICCCAAGAIGIIGCCICICICICICICA 355 301 GACIGITITICICACIGIACTICIGGGIAAACIGGAGAAGAGCITICAACICIGITICACCIG 360

g &	Db !	8 B	δ α β	Ş	д .	Q {	B 8	, В	Qy	Ъ	δ	DЪ	8	Db	γQ	Db	Q
1981 ATCATTGAGGTCTCC 1995 2036 ATCATTGAGGTCTCC 2050	1976 AGGICACGGGAAAGAGCTGGGGAAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 1980	1916 AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGGAGCATCATGTCAGAGAAC	1856 CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGCCCCCTTTGAA 1915	1801 CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCTTTGAA		1741 GCCTTACAGCTGCAGCTGCAGCTCTACGGAGGCAGTGCCAGTTACTCT	1681 ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT	1676	/ 1621 TCGGATATCTTGGCCCCCAGACCTCTACCCCTTGCCTGACCAGCAGCTGGTATTTTGCC 1680	1616 CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC	/ 1561 CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC 1620	1556 TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC	Y 1501 TCTCCACTGCATCGAAGTGGGAGGACGACGACTACCACCAGCTTCCTTTTCGGC 1560	1496 AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGCAGCCGCCCAGAGGTCCCCTTTTA	Y 1441 AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCAGAGGTCCCTTTTA 1500	1436 GATAAGGAAGCCAGCATCCCCAAGAAGCTGCAGACTGCCAGGCCTTCAGACAGCCAG 1495	Y 1381 GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG 1440

Search completed: June 21, 2004, 23:40:19 Job time: 12565.5 secs

Ť:\

a

ი

```
Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                   Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                          Databage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      geq
geq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               nucleic search, using sw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           June 21, 2004, 17:00:31 ; Search time 7898.16 Seconds (without alignments) 7542.898 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-029-345A-108_COPY_538_2532
1995
                                                                                                                                                                10:
11:
12:
13:
14:
15:
16:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27513289 seqs, 14931090276 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        atggcccatgagatgattgg.....tggaaatcattgaggtctcc 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                          em_estro:
em_htc:*
gb_est1:*
gb_est2:*
gb_htc:*
em_gss_rod:*
em_gss_phg:*
em_gss_vrl:*
gb_gssl:*
gb_gss2:*
                                                                                                       em_gss_hum: *
em_gss_inv: *
em_gss_pln: *
em_gss_vrt: *
em_gss_fun: *
                                                                                                                                                                                                                                                                                                                                                               em_estba:*
em_esthum:*
                                                                                                                                                                                                                                                                                                             em_estpl:*
                                                                                                                                                                                                                                                                                                                         em_estov: *
                                                                                                                                                                                                                                                                                                                                    em_estmu:*
                                                                                                                                                                                                                                                                                                                                                    em_estin: *
                                                                              em_gss_mam:*
em_gss_mus:*
                                                                                                                                                                           em_estfun:*
em_estom:*
                                                                                                                                                                                                                  gb_est4:*
                                                                em_gss_pro:*
                                                                                                                                                                                                     est5:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                55026578
```

45	; ;	44	43	42	41	40	39	38	37	36	3 5	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	ø	œ	7	σ	ហ
è		7	37	86.	86.	89.		04.	\vdash	22.	425.8	28.	u	55.	62.	79.		90.	N	27.		36.	41.	41.	44.	58.	59.	92.	<u>ვ</u>	06.	15.	23.	N	w	w	41.	60.	95.		86.	99.
α.	٠:	B	9	9	9	9.	٥.	0	0	:	21.3	ŗ	۲.	۶.	ω ·		4.	4.	٥.	٥,	٥.	٥.	7.	.7	7.	8	8.	9.		0		-			۲		ω	٠.	9.	9	
9.6	5 (5. j	21.5	4	2207	463	391	463	619	723	516	586	512	792	1067	631	739	3325	743	946	790	595	693	621	602	650	656	639	715	752	983	660	769	891	663	682	920	862	836	903	974	898
<u>+</u>	. !	9	12	11	10	13	10	29	13	29	14	10	13	10	28	ა 8	1	14	12	12	10			0	0	4	4	4	w	N	N	w	ω	ω	N	0	u	N	N	w	w
7/2/0		1365	M98714	C03823	0932	7922	5877	8386	817	1365	CF104291	1560	4656	3568	3924	5028	3565	2780	5752	6161	4742	628	AV703072	742	7204	291	238	717	208	518	770	407	860	902	569	779	003	180	242	169	BQ721265
F/2/694 OI-M-MBO	111 00 111	Y413657 Mus musc	M987142 UI-H-COO	038231 Homo	09325 QV0-CI02	79224 DKFZp686	58779 naf10f04	83869 OST226	G UI-M-E	13655 Homo s	CF104291 maj30g02.	F815601 MR2-CI	U946569 703769	5687 601780	9241 RPCI-24-	0283 2M01	5652 Mus musc	7802 UI-M-HB0	7528 60328186	BI661614 603305740	7426 RC1-CT02	528 AV701628	072 AV7	7425 RC1-CT02	2046 UI-	2917 UI-M-GH0	742387 UI-N	F727177	Q432082	165188 60234405	1917706	U704078	70989 AGENCOUR	479029	16954	E897795	Q770036 UI-M-FI0	821804	G482429	951695	Q72126

1060 bp mRNA linear EST 20-FEB-2002 AGENCOURT_6491295 NIH_MGC_125 Homo sapiens cDNA clone IMAGE:5723711 5', mRNA sequence. BM546940 BM546940.1 GI:18780310

ACCESSION VERSION KEYWORDS

EST

SOURCE ORGANISM

RESULT 1 BM546940 LOCUS

ALIGNMENTS

O

იი

DEFINITION

REFERENCE AUTHORS TITLE Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Invitrogen
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
plate: LLAM12711 row: m column: 24 Homo sapiens (human)
Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 1060)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Robert Strausberg, Ph.D. Plate: LLAM12711 row: m column: 24 High quality sequence stop: 737.

þe

Result No.

Query Match

Length DB

ij

Description

834.6 827.8 809.6 896.8 Score

45.0 41.8 41.5 40.6

1060 883 881 859

12 13 13

BM546940 BQ945892 BQ930140 BQ933499

BM546940 AGENCOURT BQ945892 AGENCOURT BQ930140 AGENCOURT BQ933499 AGENCOURT

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

ORIGIN

956 1446 968

837

```
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                            1208
                                                                                                                                                                  1148
                                                                                                                                                                                                                                                           1088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                 1028
                                                                                                                                                                                                            598
                                                                                                                                                                                                                                                                                                       547
                                                                                                                                                                                                                                                                                                                                                                                               487
                                                                                                                                                                                                                                                                                                                                                                                                                                            968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                548
            ATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTCCTCCAT 1267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                973;
                                                                                                                      TGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTCTCTGG
                                                                                      TACCCÁGCGTGCÁGCCGTCGCTGTTÁGAGGÁCÁGCCGCTGGTÁCÁGCGCGCTCÁGTGGGC
                                                                                                                                                                                                            TGCCCAGCGTGCAGCCGTCGCTGGTAGAGGACAGCCCGCTGGTACAGGCGCTCAGTGGGC 1147
                                                                                                                                                                                                                                                                                                    ACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGGCCAGCGTGCCAGCGG
                                                                                                                                                                                                                                                                       ACTOTOCTACOTOAGAGGCAGCAGGACAAAGGCCCGTGCATCCCG-----CCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7
                                                                                                                                                                                                                                                                                                                                                               TCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCCTGTGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAATGAACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ĠĀĠĊĀŦĊĀĠĠĠĊĊĀĀĀĠĀĠĊĀĀĀĊŤĊĀĀĠĊŤĠĊĪĠĊĀĊĊŤĠĠĀĠĀĀĠĊĊĀĀĀŤĠĀĀĊĊŤĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGĠĀĊĀTĠŢĊŢŢĀĠĀŢĠĀĀĠĊŢŢĀĊĀĠĀŢŢŢĠŢĠĀĀĀĠĀĀĀĀĀĀĀĀČĊŢĀĊŢĀŢĀŢĠŢĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACTGTTTAGCTGGGATCTCCGCCTCCGCCACCATCGCTATGGCCTACATCATGAAGAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a Crigrith a de reganda de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia del la comercia de la comercia de la comercia del la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la comercia del la comercia de la comercia de la comercia de la comercia de la comercia de la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comercia del la comer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAAGCCTCCAATGGATGTGTTCTAGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTGCCGTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTTCTAGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTGCCGTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGGGATTGGTTATGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTTATCCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             rteceaarerrarerragerisecasesaarererra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /lab_host="PHIOB"
/clone libb"NIH_MGC 125"
/note="Organ: owary (pool of 3); Vector: pCMV-SPORT6;
/note="Organ: owary (pool of 3); Vector: pCMV-SPORT6;
Site 1: ECORV (destroyed); Site_2: Not1; RNA source pool of three ovaries, from females ranging in age from 38 to open cloned and directionally cloned is destroyed upon cloning). Average insert normalized and enriched for full-length clones and was constructed by C. Gruber (Invitrogen). Research Genetics tracking code 036."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/clone="IMAGE:5733711"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             45.0%;
94.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 896.8; DB 14;
; Pred. No. 2.9e-241;
Micmatches 37;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1060;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17;
                                                                                                                                  1207
                                                                                                                                                                                 657
                                                                                        717
                                                                                                                                                                                                                                                                                                                                                                                                            1027
                                                                                                                                                                                                                                                                                                                                                               546
                                                                                                                                                                                                                                                                                                                                                                                                                                                          486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
TITLE
                 Query Match 41.8
Best Local Similarity 98.9
Matches 874; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 2
BQ945892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1017 TATCCTC 1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1388 AGGAAGCCAGCATCCCCCAAGAAGCTGCAGACCGCCA-GGCCTTCAGACAGCCAGAGCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Email: cgapbs r@mail.nih.gov
Tissue Procurement: ATCC
cDNA Library Preparation: Rubin Laboratory
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLN)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information
found through the I.M.A.G.E. Consortium/LLNL
http://image.llnl.gov A.G.E. Consortium/LLNL at:
Plate: LLCM2653 row: o column: 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          High quality sequence stop: 672.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bukaryota; Metazoa; Chordata; Craniata; V. Mammalia; Eutheria; Primates; Catarrhini; 1 (bases 1 to 883)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BQ945892
BQ945892.1
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Contact: Robert Strausberg,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B0945892
AGENCOURT 8926314 NIH_MGC_101 Homo
5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGATTGCATTCNGNTCAGAACCCAGCAGCAGCAGTGGGCACCGCCCCAGAANGTCCCCCTTTT 1016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCTCCAC 1507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  СĢ-----АГТЭСАТТССЭТСАВААССАВСАВСАВТОВСАССВССАВАВОВТОСТТТТА 1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGGAAGCCAGCATCCCCCAGAAGCTGCAGACCGCCAGGGCTTTCAGACAGCCAGAAGCAG
                                                                                                         /organism="Homo sapiens"
/mol_type="mRNA"
/mol_type="mRNA"
/db xref="taxon:9606"
/db xref="taxon:9606"
/db xref="taxon:9606"
/clone="IMAGE:643045"
/tissue_type="epidermoid carcinoma, cell line"
/clone_lib="NIH MGC 101"
/note="Organ: lung; Vector: pOTB7; Site_1: EcoRI; Site_2:
into EcoRI/XhoI sites using the following 5' adaptor:
GCACCAG(G). Library constructed by Ling Hong in the
laboratory of Gerald M. Rubin (University of California,
Superscript II RT (Life Technologies). Note: this is a
NIH_MGC Library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ĠĊĊĀĠŦŢĊŢĊĊĊĊŢĠŊŢĊĀŊĠĀĀĊŦĀŢĊĠĠĀĠĊĀĠĀĊŢĊĊĊĠĀĀĀĊĊĀĠŢ~ĊŢĠĀŢĀĀĠĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCAGTTCTCCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGGAAACCAGTCCTGATAAGG 1387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cágaagargerriggaaraeraecaaecrirecaeraererggargggaregaaecaaecrar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAACAAGCTAT 1327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTCTCCTCAT
                                    41.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      . 883
         Score 834.6; DB 13
Pred. No. 9.4e-224;
0; Mismatches 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chordata; Craniata; Vertebrata; Euteleostomi; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ph.D
                                                   DB 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mRNA
sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gene
       Indels
                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               linear EST 21-AUG-2002
cDNA clone IMAGE:6463045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Collection (MGC)
       4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (LINI)
    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ь́е
ω
```

B 8 ₽ Ś 밁 Ś 밁 Ş B Ś 밁 Ş 뭐 Ş 밁 Ś 밁 Ś 밁 S 밁 Ş 뮹 Ś

þe

```
당
                                                                                                                                               RESULT 3
BQ930140
LOCUS
                                                                 ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      중 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ર્
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                              ક
                                                                                                                                                                                                                                                                                                                                            문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                   SOURCE
                                                                                                                                DEFINITION
                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1034
                                                                                                                                                                                                                                                          1634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1094
                                                                                                                                                                                                                                                                                                                                                                                          1514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1154
                                                                                                                                                                                                                                                                                                                                                        718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           _
Homo sapiens
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                AGENCOURT 8923732 NIH MGC 5', mRNA Bequence. 80930140 BQ930140.1 GI:22345171
                                                                                                                                               BQ930140
                                                                                                                                                                                                                                             CCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC 1680
                                                                                                                                                                                                                                                                                                             AGCAGCACCTCACGAAGTCTGCTGGGCCTGGGCCTTAAGGGCTGGCACTCGGATATCTTGG
                                                                                                                                                                                                                                                                                                                                                                            GAAGTGGGAGGCGTTGGAGGACAATTACCACACCAGCTTTCCTTTTTCGGCCCTTTCCACCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTATCTCCACTGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAGAGCAAGCGATTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCTGATAAGGAGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCTGATAAGGAGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAACAAGCTATGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTCTCCTCATCAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAGTGGGCTGCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTGCCCAGCGTGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCCTGTGCCGACTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGTCTCAGAGGGTGGACAGAAAAGCGAGACCCCTCAGTCCACCCTGTGCCGACTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGACTGGAGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAAAAAAGA-CTACTATATCTCCAA--C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCCCCCAGACCTCTACCCCTTCCCTGACACGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                          GAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGCCTTTCCACCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAGAGCAAGCGATTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAGTGGGCTGCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTACCTCAGAGGCAGGACAAAAGGCCCGTGCATCCCGCCAGCGTGCCCAGCGTGCCCA
                                                                                                                                                                                                                                                                                            AGCAGCACCTCACGAAGTCTGCTGGGCCTGGGGCTTAA-GGCTGGCACTCGGATATCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                         ATTCGGTCAGAAACAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTATCTCCACTGCATC
                                                   sapiens (human)
                                                                                                                             C_101 k
                                                                                                                                bp
1 Homo
   Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                               sapiens
                                                                                                                                                 mRNA
                                                                                                                                linear ES
                                                                                                                                EST 20-AUG-2002
ne IMAGE:6460964
                                                                                                                                                                                                                                                                                                                            1633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1093
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1033
                                                                                                                                                                                                                                                                                                                                                                                          1573
                                                                                                                                                                                                                                                                                                                                                                                                                                                         1513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           853
                                                                                                                                                                                                                                                                                            836
                                                                                                                                                                                                                                                                                                                                                            777
                                                                                                                                                                                                                                                                                                                                                                                                                         717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                        8
                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                     ई
                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  á
      밁
                              5
                                                                  В
                                                                                               8
                                                                                                                                밁
                                                                                                                                                                                                                      ঠ
                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 862;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local :
                                    1274
                                                                                                                                                                1154
                                                                                                                                                                                                                              1094
                                                                                                                                                                                                                                                                                            1034
                                                                                                  1214
                                                                                                                                                                                                301
                                                                    421
                                                                                                                                  361
                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                            974
                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                         914
      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        794 TGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAAAAAAGACCTACTATATCTCCAAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Plate: LLCM2648 row: h column: High quality sequence stop: 676.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 (bases 1 to 881)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Contact: Robert Strausberg,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cDNA Library Preparation: Rubin Laboratory
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
                                                                                                                                                   GCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAGTGGGCTGCACC
                                                                                                                                                                                                                                                                                CTACCTCAGAGGCAGGAGCAAAAGGCCCGTGCATCCCGGCCAGCGTGCCCAGCGTGCCCA
                                                                                                                                                                                                                                                                                                                                                CTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCCTGTGCCGACTCTG
                                                                                                                                                                                                                                                                                                                                                                                                               CAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGACTGGAGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAAAAAAGACCTACTATATCTCCAAACT
                          ATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAACAAGCTATGCCAGT
                                                                                                                                                                                                                                                              CTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTGCCCAGCGTGCCCA
                                                                                                                                                                                                                                                                                                                             CTGTCTCAGAGGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCCTGTGCCGACTCTG
                                                                                                                                                                                                                                                                                                                                                                                             CAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAACCAGACTGGAGCAT
                                                                    AATCAGTTI
                                                                                                  AATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTCTCCTCATCAGAAG
                                                                                                                                  TGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTCTCTCTGGATATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /tissue_type="mpidermoid carcinoma, cell line"
/lab_host="DH10B (phage-resistant)"
/clone_lib="NIH_MGC_101"
/clone_lib="NIH_MGC_101"
/clone_lib="NIH_MGC_Li01"
/clone_lib="NiH_MGC_Li01"
/clone_lib="NiH_MGC_Library (potB7; Site_1: EcoRI; Site_2: /note="Organ: lung; Vector: pOTB7; Site_1: EcoRI; Site_1: And into EcoRI/XhoI sites using the following 5' adaptor: GGCACCAG(G). Library constructed by Ling Hong in the laboratory of Gerald M. Rubin (University of California, Berkeley) using ZAP-cDNA synthesis kit (Stratagene) and Superscript II RT (Life_Technologies). Note: this is a NIH_MGC Library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1. .881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /clone="IMAGE:6460964"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               organism="Homo sapiens"
                                                                    TCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTCTCCTCATCAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      41.5%;
99.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 827.8; DB 13
Pred. No. 7.8e-222;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Collection (MGC)
```

ω •-

Gaps

1333

1273

420

480

1153

300

360

1093

240

1033

Gaps

60

```
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 4
BQ933499
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cDNA Library Preparation: Rubin Laboratory CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Agencourt Bioscience Corporation Clone distribution: MGC clone distribution information can found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
Plate: LLCN2634 row: i column: 04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Contact: Robert Strausberg, Ph.D. Email: Cgapbs-r@mail.nih.gov Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 859)

NIH-MGC http://mgc.nci.nih.gov/.

National Institutes of Health, Mammalian Gene Collection (MGC)

Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BQ933499

AGENCOURT_8732489 NIH_MGC_101 Homo sapiens cDNA clone IMAGE:6455595
5', mRNA sequence.
BQ933499
BQ933499.1 GI:22348882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens (human)
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGCCCCCAGACCTCTACCCCTTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GG-CCCCCAGACCTCTACCCCTTCCC 1657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGCAGCACCTCACGAAGTCTGCTGGCCT-GGGCCTTAAGGGCTGGCACTCGGATATCTT 1631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cá de cáce cáce da deservido de como de como de como de caracter de caracter de como de caracter de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAĀGTGGĠĀĠĠĠĠĠĠĠĠĠĠĠĠĠĠĸŦŦŔĊĊŔĠĊĸĠĊĸĠĊŦŦĊĊŦŦŦŦĊĠĠĊĊŦŦŦĊĸŔĊĸĠĊ
                                                                                                                              /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/db_xref="taxon:9606"
/db_xref="taxon:9606"
/clone="IMAGE:645595"
/clone="IMAGE:645595"
/clone_lib="NIH MGC 101"
/note="forgan: lung; Vector: pOTB7; Site_1: EcoRI; Site_2: into EcoRI/XhoI sites using the following 5' adaptor: labratory of Gerald M. Rubin (University of California, Into EcoRI/XhoI sites using the following 5' adaptor: labratory of Gerald M. Rubin (University of California, Superscript II RT (Life Technologies). Note: this is a NIH_MGC Library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAAGTGGGAGGAGGAGAATTACCACACCAGCTTCC-TTTTCGGCCTTTCCACCAGC 1572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTATCTCCACTGCATC 1513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTCGGTCÁGÁACCÁGCÁGCÁGCÁGCÁGCÁCCCÁGÁGGTCCCTTTTÁTCTCCÁCTGCÁTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCTGATAAGGAGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  quality sequence stop: 727.
Location/Qualifiers
                                                                               40.6%;
                                                                     Score 809.6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      867
                                                                     DВ
                                                                     13;
                                                            Length 859;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1393
                                                                                                                                                                                                                    ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                            RESULT 5
BQ721265
LOCUS
                                            REFERENCE
                                                                                                                                                              SOURCE
                                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뭕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity 98.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1574 AGCAGCACCTCACGAAGTCTGCTGGCC--TGGGCCTTAAGGGCTGGCACTCGGATATCTT 1631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1514 GAAGTGGGAGGACGAGACAATTACCACACCAGCTTCCTTTTCGGCCTTTCCACCAGCC 1573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1274
                                                                                                                                                                                    BQ721265
BQ721265.1
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1094
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria, Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 898)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                   898 bp mRNA linear EST 16-JUL-200:
AGENCOURT 8294508 Lupski_sympathetic_trunk Homo sapiens cDNA clone
IMAGE:6194455 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1034
                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                              Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 854 TCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGACTGGAGCAT 913
                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGCAGCACCTCACGAAGTCTGCTGGCCCTTGGGCCCTTAAGGGCTGGNNCACTCGGATATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ĠĀĀĠŦĠĠĠĠĠĠĠĠĠĠĠĠĠĠĠĠĀĸŦŦŖĊĊĀĊŖĊŖĊĠĠĊŦŦĊĊŦŦŦĊĠĠĊĊŦŦŦĊĊŖĊĊĸĠĊĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGGTCCCTTTTATCTCCACTGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTATCTCCACTGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCAGCATCCCCAAGAAGCTGCAGAGACCGCCAGGCCTTCAGACAGCCAGAGCAAGCGAATTGC 1453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ccagcarcccaagaagerigcagaccgccaggccrrcagacagcaagcaagcaagcgarrgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  réreceérigiri elaggia a raticega de la carece de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compartica de la compa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAAACCAGTCCTGATAAGGAGGAAG 1393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGTTTTGGAATACTÁCAAACCTTCCACTÁCTCTGGATGGGACCAACAAGCTÁTGCCAGT 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAACAAGCTATGCCAGT 1333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTCTCCTCATCAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTCTCCTCATCAGAAG 1273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTTCTCTCTGGATATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        rerececkagackageriegakagackagcaktrakagerekaggerrecerrererekaktarek
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAGTGGGCTGCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCGTGCÁGCCGTCGCTGTTAGAGGÁCAGCCCGCTGGTÁCAGGCGCTCÁGTGGGCTGCÁCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            chácchcágagcagcaggachadagccccghgcarcccgccagcgrgcccagcgrgccca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTACCTCAGAGGCAGGACGAGACAAAGGCCCGTGCATCCCGGCCAGCGTGCCCAGCGTGCCCA 1093
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGTCTCAGAGGGTGGACAGAAAAGGGAGACGCCCCTCAGTCGACCCTGTGCCGACTCTG 1033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cTGTCTCÁGAGGGTGGACAGAAAAGGGAGAGGCCCCTCÁGTCCACCCTGTGCCGACTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             choooccanadadchaaacticaagctioctiocacctiogaagaagccaaattgaacctioticctio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rcaartricteeeccaactecteeactateaeaaaaaaaaaaaacaacaacacteeacat 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGTCTTTÁGÁTGÁAGCTTÁCAGÁTTTGTGÁAAAGÁAAÁAÁÁÁCTÁCTÁTÁTCTCCAAÁCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAAAAAAGACCTACTATATCTCCAAACT
                                                                                                                                                                                                    GI:21860162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     98.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred. No. 1.1e-216;
0; Mismatches 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
```

EST 16-JUL-2002

840

780

1513

660

480

420

1213 360 1153

300

240

180 973

۲.,

```
밁
                                                                                                                                                     Ş
                                                                                                                                                                                          밁
                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                       ঠ
                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                         ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                    S
                                                             В
                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                             428
                                                                                              368
                                                                                                                              312
                                                                                                                                                             308
                                                                                                                                                                                            252
                                                                                                                                                                                                                             248
                                                                                                                                                                                                                                                             192
                                                                                                                                                                                                                                                                                            188
                                                                                                                                                                                                                                                                                                                             132
                                                                                                                                                                                                                                                                                                                                                            128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               859;
                                                                                                                                                                                                                                                                                                                                                                                              72
                                                                                                                                                                                                                                                                                                                                                                                                                              83
                                                                                                                                                                                                                                                                                                                                                                                                                                                               12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Email: cgapbe-r@mail.nih.gov
Tissue Procurement: Dr. James R. Lupski
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium
CDNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NIH-MGC http://mgc.nci.nih.gov/
National Institutes of Health, I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Plate: LLAM13599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                    TCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACCCGAATTC
                                                                                GTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCTAG
                                                                                                                                                TTCTCACTGTACTTCTGGGTAAACTGGAGAAAGAGCTTCAACTCTGTTCACCTGCTTGCAG
                                                                                                                                                                                                                  TGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAG
                                                                                                                                                                                                                                                                                                                                                            TGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                        CGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCCCACATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAAAGTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGAGATGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAAAGTGGAA
                                                                                                                             TTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAG
                                                                                                                                                                                              CGGAAAAAGTGCTGATTGATAGCCGGCCATTTGTGGAATACAATACATCCCACATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              quality sequence stop: 669.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5'-GACTAGTTCTAGATCGCGAGCGGCCCT(15)-3'. Size selected ;
1kb for average insert length 1.9 kb. This is a primary library, non-amplified. Library constructed by Life Technologies and donated by J. Lupski, M.D./Ph.D. (Baylo College of Medicine); available through Life
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone_lib="Lupski_sympathetic_trunk"
/note="Vector: pCNV-SPORT6 (Life Technologies); Site_1:
NotI; Site_2: SalI; cDNA made by oligo-dT priming.
Directionally cloned using the following adaptors:
5'-TCGACCCACGCGTCCG-3' and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /tissue_type="sympathetic trunk"
/dev_stage="adult, 16 yr"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="IMAGE:6194455"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1. .898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             organism="Homo sapiens'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              40.1%;
96.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               row: 1 column:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 799.8; DB 13; Pred. No. 6.4e-214;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Collection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               å,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (Baylor
                             487
                                                                                              427
                                                                                                                              371
                                                                                                                                                             367
                                                                                                                                                                                              311
                                                                                                                                                                                                                                                                                              247
                                                                                                                                                                                                                                                                                                                              191
                                                                                                                                                                                                                                                                                                                                                             187
                                                                                                                                                                                                                                                                                                                                                                                                                              127
                                                                                                                                                                                                                                                                                                                                                                                                                                                               71
491
                                                               431
                                                                                                                                                                                                                             307
                                                                                                                                                                                                                                                             251
                                                                                                                                                                                                                                                                                                                                                                                              131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ٧
```

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 6
BQ951695
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CDNA Library Preparation: Rubin Laboratory
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLCM2650 row: f column: 05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BQ951695
AGENCOURT_8947130 NIH_MGC_101
5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; I
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BQ951695
BQ951695.1 GI:22367173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Robert Strausberg,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGACATGTC-TTTAGATGAAGCTTACAGATTTGTGAAAGAAAAAAAGACCTACTATATCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACTGTTTAGCTGGGATCTCCCGCT-CGGCACCATCGCTATCGCCTACATCATGAAGAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTTCTAGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTGCCGTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTTATCCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGGGATTGGTTATATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCAAAACTTCAAATTTTCTTGGGCCAACTCCCTGGCATTATGAAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCAAACTT---CAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAG-AAATTTTGCCGTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATGCAGCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (bases 1 to 974)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      e: LLCM2650 row: f column: quality sequence stop: 617.
/clone="IMAGE:6461668"
/tissue_type="epidermoid carcinoma, cell line"
/tissue_type="epidermoid carcinoma, cell line"
/lab_host="DH10B (phage-resistant)"
/clone_lib="NIH MGC_101"
/clone_lib="NIH MGC_101"
/note="Organ: lung-Vector: pOTB7; Site_1: EcoRI; Site_2:
/note="Organ: lung-Vector: pOTB7; Site_1: EcoRI; Site_2:
/note="Organ: lung-Vector: pOTB7; Site_1: EcoRI; Site_2:
/note="Organ: lung-Vector: pOTB7; Site_1: EcoRI; Site_2:
/note="Organ: lung-vector: pOTB7; Site_1: EcoRI; Site_2:
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="Organ: lung-resistants"
/note="O
                                                                                                                                                                                                                                                                                                                                                                       /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           pp
pomo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear EST 21-AUG-2002
CDNA clone IMAGE:6461668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               551
```

```
RESULT 7
BG482429
                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                            1684 GAGTCCTCACA---CTTCTACTCTGCCTCAGCC 1713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                     CGAAGCCCTCÁCACCTTCTÁCTCTGCCTCÁGCC 933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         854 TCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAACCAGACTGGAGCAT 913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    794 TGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAAAAAAAGACCTACTATATCTCCAAACT
                                                                                                                                                                                                                                                                                                                                     ATCTTTGGGCCCCAGACCTCTACCCCTTTCCCTGAACAAGAAGCTGGTAATTTTTGCCAC 900
                                                                                                                                                                                                                                                                                                                                                                                                  TATCTTGGCCCCCAGACCTCTACCCCTT---CCCTGACCAGCAGCTGGTATTTTGCCACA 1683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCAGCAGCA-CCTCACGAAGTCTGCTGGCCTGGG--CCTTAAGGGCTGGCACTCGGA--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      882;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ĠĊĊĀĠĊĀĠĊĀĊĊĊŢĊĀĊĠĀĀŦĊĊŢĠĊŢĠĠĊĊŢĠĠĠĠĊĊĊŢŢĀĠĠĠĊŢĠĠĠĊĀĊŢŢĊĠĀĀŢ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ĠĀĀĠŦĠĠĠĀĊĊĠŦĠĠĀĠĠĀĊĀĀŦŦĀĊĊĀĊĀĊĊAĢĊŦŦŒĊĊŦŦŤŦŤĊĠĠĊĊŦŦŦĊĊĀĊĊĀ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAAGTGGGAGGAGGACAATTACCACACCAGCTT----CCTTTTCGGCCTTTCCACCA 1570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTCGGTCAGAACCAGCAGCAGCAGGGCCCAGAGGTCCCTTTTATCTCCACTGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTCGGTĊAGAACCAGCAGTGGCACTGCCACAGAGGTCCCTTTTATCTCCACTGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAGAGCAAGCGAATTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ĊĊĀĠĊĀŦĊĊĊĊĀĀĠĀĀĠĊŦĠĊĀĠĀĊĊĠĊĊĀĠĠĊĊŦŦĊĀĠĀĊĀĠĊĊĀĠĀĠĊĀĀĠĊĠĀŦŦĠĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rereceergrieagaaactareggageagaerecegaaaceagarecegaaaacea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCTGATAAGGAGGAAG 1393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGTTTTGGĀĀTĀĊTĀCĀĀĀĀCCTTCCĀCTĀCTCTGGĀTGGGĀCCĀĀCĀĀGCTĀTGCCĀGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAACAAGCTATGCCAGT 1333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTCTCCTCATCAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTCTCCTCATCAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTCTCTCTGGATATCA 1213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rgrccecaeaeacaeeres arangae de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la refere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ecerecado de entra esta de entra esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta en esta 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAGTGGGCTGACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTACCTCAGAGGCAGGACAAAGGCCCGTGCATCCCGCCGGCGTGCCCAGCGTGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTGCCCAGCGTGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ctretrendadeserieda ela diadese el constructor de la construction de construction de construction en construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construction de construct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCCTGTGCCGACTCTG 1033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cadedecanade and contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract contract cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCAATTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGACTGGAGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TĠŦĊŦŦŦŔĠŔŦĠŔŔĠĊŦŦŔĊŔĠŔŦŦŦĠŦĠŔŔŔĠŔŔĸŔŔŔĠŔĊĊŦŔĊŦŔŦŔŦĊŦĊĊŔŔŔĊŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            39.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 786.2; DB 13;
Pred. No. 4.7e-210;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       974;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                853
                                                                                                   Ś
                                                                                                                                                                                                            뮍
                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
```

```
S
                                                      멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                   302
                                                                                                                242
                                                                                                                                                753
                                                                                                                                                                                  182
                                                                                                                                                                                                               693
                                                                                                                                                                                                                                                 122
                                                                                                                                                                                                                                                   633 GAATGACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGA
                                                                                                                                                                                                                                                                                                                                                573
                                                                                                                                                                                                                                                                                                                                                                                513 GCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGC
                                                                                                                                                                                                                                                                                                                62
                                                                                                                                                                                                                                                                                                                                                                                                                                            853;
CCTGGACTATGAGAAGAAGATTAAGAACCAGACTGGAGCATCAGGGCCAAAGAGCAAACT
                                                    CAGATTTGTGAAAGAAAAAAGACCTACTATTATCTCCAAAACTTCTAATTTTCTGGGCCAACT
                                                                                                                  CGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTA 812
                                                                                                                                                            GAAAGCAAAAGCTTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                 CAGATTTGTGAAAGAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACT
                                                                                               CGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTA
                                                                                                                                                                                   GAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CDMA Library Preparation: Ling Hong/Rubin Laboratory
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
plate: LLCM1431 row: m column: 23
High quality sequence stop: 806.
Location/Qualifiers
                                                                                                                                                                                                                              GAATGACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGA
                                                                                                                                                                                                                                                                                             CAGCAATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGT
                                                                                                                                                                                                                                                                                                                CAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGT 632
                                                                                                                                                                                                                                                                                                                                                           ĠĊĠaĠafrĠfccrcaacaaĠgaĠcrĠargcaĠcaĠaafrĠĠĠafrfġĠrfaitĠrġrfaaarĠc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryofa; Metazoa; Chordata; Craniata; Vertebrata; Mammalla; Eutheria; Primates; Catarrhini; Hominidae; 1 (bases 1 to 903)

NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collec Unpublished (1999)

Contact: Robert Strausberg, Ph.D.
Email: cgapbs-remail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BG482429 903 bp mRNA linear EST 21-MAR-2001 602526595F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:4850430 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BG482429
BG482429.1 GI:13414708
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clone="IMAGE:4650430"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                     39.1%;
94.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                       °,
                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 780.2; DB 12;
Pred. No. 2.2e-208;
0; Mismatches 38;
                                                                                                                                                                                                                                                                                                                                                                                                                              Indels 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Euteleostomi; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                 361
                                                               872
                                                                                               301
                                                                                                                                                                                                                               181
                                                                                                                                                            241
                                                                                                                                                                                              752
                                                                                                                                                                                                                                                             692
                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                            572
```

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                             RESULT 8
BI821804
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        몽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ર્
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                             FEATURES
                                                                                                                                                                                                    COMMENT
                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                         CCESSION
                                                                                                                                                                                                                           TITLE
                                                 Bource
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1403 C 1403
                                                                                                                                                                                                                                                                                                                                                                                                                                          902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       933 CAAGCTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTGCTGTCTCAGAGGGTGGACA
                                                                              Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNI
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information of Cound through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM11440 row: f column: 21
                                                                                                                                                                                                                                                                                                                                                          BI821804 .
603035883F1_NIH_MGC_115
                                                                                                                                                                                                            1 (bases 1 to 836)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                  Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                        Homo
                                                                                                                                                                                                                                                                                                                            BI821804.1 GI:15933354
                                                                                                                                                                                                                                                                                                                                         BI821804
                                                                                                                                                                                                                                                                                                                                                     mRNA sequence.
                                                                                                                                                                                                                                                                                                     Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                          O.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCAGGAACTATCGGAAGACTCCCGAAACCAGTCCTGATAAGGGAGGAAGCCATATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCTGATAAGGAGGAAGCCAGCATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TACAAACCTTCCACTACTCTGGATGGGACCAACAAGC----TATGCCAGTTCTCCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCAGCATGGCAGCATCCTT---ACATGGCTTCTCCTCATCAGAAG-ATGCTTTGGAATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGACAGCAATAAGCTCAAGCGTTCCTTCTCTGGATATCAAAT-CAGTTTCATATTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGAGGACAGCCCGCTGGTACAGGCGCTCAGTGGGCTGCACCTGTCCGCAGACAGGCTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACAAAGGCCCGTGCATCCCGCCAGCGTGCCCAGCGTGCCAGCCGTCGCTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACAAAGGCCCGTGCATCCCCGCCAGCGTGCCCAGCGTGCCCAGCCGTGCAGCCGTCGCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAAAAGCGAGACGCCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTCAGAGGCAGCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAAAAGCGAGACGCCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTCAGAGGCAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAAGCTGCTGCACCTGGAGAAAGCCAAATGAACCTGTCCCTGCTGTCTCAGAGGGTGGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCAGCATGGCAGCATCCCTTACATTGGCTTCATCCTCATCAGAAGAATGCTTTGGAATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGACAGCAGTAAGCTCAAGCGTTCCTTCTCTCTGGATATCAAATCCAGTTTCATATTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGAGGACAGCCCGCTGGTACAGGCGCTCAGTGGGCTGCACCTGTCCGCAGACAGGCTGGA
                                                                                                                                                                                                                                                                                        sapiens
                                                          quality sequence stop: 805.
Location/Qualifiers
/mol_type="mRNA"
/db_xref="taxon:9606"
/clone="IMAGE:5176724"
                                                 1. .836
                                 organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                 Homo
                                                                                                                                                                                                                                                                                                                                                                sapiens cDNA clone IMAGE:5176724 5',
                                                                                                                                                                                                                                                                                                                                                                             mRNA
                                                                                                                                                                                                                           Gene
                                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                                         Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                              EST 04-OCT-2001
                                                                                                                                                (LLNL)
                                                                                                                          Å,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                  S
                                                 밁
                                                                      á
                                                                                                片
                                                                                                                     S
                                                                                                                                                밁
                                                                                                                                                                      ş
                                                                                                                                                                                                 밁
                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                  뮹
                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                    ᅜ
                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                   539
                                                                                                                                                                                                                                                   479
                                                                                                                                                                                                                                                                                                    419
                                                                                                                                                                                                                                                                                                                                                     359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             387
                      925
                                                 716
                                                                       865
                                                                                                 656
                                                                                                                       807
                                                                                                                                                  598
                                                                                                                                                                         747
                                                                                                                                                                                                                           687
                                                                                                                                                                                                                                                                           627
                                                                                                                                                                                                                                                                                                                           567
                                                                                                                                                                                                                                                                                                                                                                             507
                                                                                                                                                                                                                                                                                                                                                                                                       299
                                                                                                                                                                                                                                                                                                                                                                                                                             447
                                                                                                                                                                                                                                                                                                                                                                                                                                                       239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; 608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
AGCTAAATCAAGCTGCTGCACCTGGGAGAAGGCATATGAACTGT-CCTGCTGTCTCAAAG
```

```
/lab_host="DH10B"
/(clone lib="NH1 MGC 115"
/(clone lib="NH1 MGC 115"; lung, testis; Vector:
/note="Organ: pooled brain, lung, testis; Vector:
pCMV-SPORT5; Site 1: NotI; Site 2: EcoRV (destroyed); RNA
source anonymous pool of 6 male brains, age range 23-27; l
male lung, age 27; and 1 male testis, age 69. Library is
oligo-dT primed and directionally cloned (EcoRV site is
destroyed upon cloning). Average insert size 1.8 kb,
insert size range 1-3 kb. Library is mormalized and
enriched for full-length clones and was constructed by C.
Gruber (Invitrogen). Research Genetics tracking code
021. Note: this is a NIH_MGC Library."
```

Query Match Best Local Similarity 147 CTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCAT CCAGCATTCAGCGAAACATAAGGTTGACATTGA-TGCAGTCAGAAGGTTGTAGTTTACGA AGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTGCTGTCTCAGAG GGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGACTGGAGCATCAGGGCCAAAG AGCTTACAGATTTTGTGAAAGAA-AAAAGACCTACTATATCTCCAAACTTTCAATTTTTCT-G CCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGA CATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTC GCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAATCAGTAGATTT AAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGT TCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCCTACCTGCATTTCTCA TAAACTGGAGAAGAGATTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTTGCTGAGTTCTC TCAAAGCTCCCAAGATG-TGCCTCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGG TCAAAGCTCCCAAGATGTTGCCTCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGG CCAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGA CTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCAT CCGCTCCG-CACCATCGCTATCG-CTACATCATGAAGAGGATGGACATGTCTTTAGATGA CATTGAGAAAGCCAAAAGCCTCCAATGGATGTG-TCTAGTTGCACTGTTTAGCTTGGGATCTC GCCTGTGAATGACAGCTTCTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTT AAATGCCAGCAATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGT CTGCCAGCGAGATGTCCTCAACAAGGAGCTGATGCAGCAGAATGGGATCGGTTATGTGTT CTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTT GCCTTGCTTACCTGTTGCCAACATTGGGCCAACCCGAATTCTTCCCAATCTTTATCTTGG GCCTTGCTTACCTGTTGCCAACATTGGGCCAACCCGAATTCTTCCCCAATCTTTATCTTGG TAAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTC GGCCAGCTCCTGGACTATGAGAAGAAGATTAAGAACCAGACTGGAGCATCAGGGGC-AAG AGCTTACAGATTTGTGACAGAACAAGAGACCTACTATATCTCCAAACTTCAATTTTCTGG TCGTAGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCA Conservative 34.9%; 0 Score 695.6; DB 12 Pred. No. 1.7e-184; 0; Mismatches 24; DB 12; Indels Length 9 Gaps 984 774 924 864 655 908 597 746 538 686 478 626 418 566 358 506 298 446 238 386 178 326 119 8 ი

188

```
B
                                                                 Ş
                                                                                                      Б
                                                                                                                                   Ş
                                                                                                                                                                                                                                        ORIGIN
                                                                                                                                                      Query Match
Best Local Similarity
Matches 752; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 9
BQ770036
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                       407
                                                                                                                                     347
                                       69
                                                                                                      9
                 GTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCCTTACCTGTTGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Contact: Robert Strausberg, Ph.D.

Bmail: cgapbs-r@mail.nih.gov

Tissue Procurement: Dr. Jim Lin, University of Iowa
cDNA Library preparation: Dr. M. Bento Soares, University of Iowa
cDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
CDNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:

"http://image.lnh.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                834 GG
                                                                                                   ACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCT
                                                                                 ACTCTGTCCACCTGCTTGCAGGTGCTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCT 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Seq primer: pyx-5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 (bases 1 to 862)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BQ770036 862 bp mRNA UI-M-FIO-byt-0-24-0-UI.rl NIH BMAP FIO Mus IMAGE:5702255 5', mRNA sequence. BQ770036 BQ770036.1 GI:21978510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   _ନ୍ଥ
                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                 /dev_Stage="minryo 12.5dpc"
/lab host="DH10B (TI phage resistant)"
/clone_lib="NIH_BMAP FIO"
/clone_lib="NIH_BMAP FIO"
/note="Organ: Brain; Vector: pXX- Asc; Site_1: EcoR I;
Site_2: Not I; The library was constructed according
Bonaldo, Lennon and Soares, Genome Research, 6:791-806,
1995. Denatured RNA was size fractionated on a 1% agarose
primer containing a Not I site. Double strand cDNA was
size selected according to mRNA size fraction, ligated
directionally into pXX-Asc vector. The library tag
is CAGCCACGAC. This library was created for the University
Developing Mouse Nervous System', supported by National
program coordinator."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             is clone was contributed by the Brain Molecular Anatomy Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tissue_type="whole brain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'db_xref="taxon:10090"
'clone="IMAGE:5702255"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mol_type="mRNA"
strain="C57BL/6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ocation/Qualifiers
                                                                                                                                                                            33.1%;
86.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (house mouse)
                                                                                                                                                        Score 660.6; DB 13; Pred. No. 1.3e-174; 0; Mismatches 102;
                                                                                                                                                        Indels
                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Collection
                                                                                                                                                     12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EST 26-JUL-2002
CDNA clone
                                                                                                                                                     Gaps
                   128
                                                 466
                                                                                                                                                          SOURCE
ORGANISM
                                              COMMENT
                                                                                                                                                                                                            ACCESSION
VERSION
                                                                                                                                                                                                                                                                                        RESULT 10
BE897795
                                                                                                            REFERENCE
                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                          KEYWORDS
                                                                                                                                                                                                                                                                             Locus
                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                           뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                          AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                          1187
                                                                                                                                                                                                                                                                                                                                                                                                                                                          1127
                                                                                                                                                                                                                                                                                                                                                          837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1007
     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 920)

NIH-MGC http://mgc.nci.nih.gov/.

National Institutes of Health, Mammalian Gene Collection (MGC)

Unpublished (1999)

Contact: Robert Strausberg, Ph.D.

Email: cgapbs-r@mail.nih.gov

mission Promission.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         549
Tissue Procurement: ATCC/DCTD/DTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       827
                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                      BE897795.1
                                                                                                                                                                                                                          BE897795
920 pp mcvm fine mage: 3923247
601438457F1 NTH_MGC_72 Homo sapiens cDNA clone IMAGE: 3923247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      369
                                                                                                                                                                     Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     587
                                                                                                                                                                                                                                                                                                                                                                    TCAAGCGTTCCTTCTCTCTGGATATC 1212
                                                                                                                                                                                                                                                                                                                                                   rcaagegriecireteregarate
                                                                                                                                                                                                                                                                                                                                                                                                                             TGGTACAGGCGCTCAGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGC
                                                                                                                                                                                                                                                                                                                                                                                                        TGGTĀČĀGGCGCTĊĀGTGGGCTCCĀGCTGTCCTCĀGĀGĀANGCTGGĀGĀCĀGCĀCTĀĀGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATCCTG-----CAANGTGTGCCÁĞCTTACÁĞCĞTCACTCTTÁĞÁĞĞÁÇÂĞTÇÇĞÇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATCCCGCCAGCGTGCCCAGCGTGCCAGCCTGGTGGTGTAGAGGACAGCCCGC 1126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCCTCAGTCCACCCTGTGCCGACTCTGCTACCTCAGAGGCAGGAGGACAAAGGCCCGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGAGAAGCCAAATGAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAAGCGAGAGACAC 1006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TAGACAAACCCAGTGAGCCCGTGCCTGCAGCCCTCAGAGGGCCGGATGGAAGAGTGCACTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGACGATTAATAACCAGACTGGAATGTCAGGGCCAAAGAGCAAACTGAAGCTGCTGCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAAAAAGACCTACTATATCTCCGAATTTTAATTTTATGGGCCAACTCATGGACTATGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGAAGATTAAGAACCAGACTGGAGCATCAGGGCCAAAGAGCGAAACTCAAGCTGCTGCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTĠĊĊŦĀĊĀŦĊĀŦĠĀĀĠĀĠĠĀŦĠĠĀĊĀŦĠŦĊŦĊŦĀĠĀŦĠĀĢĠĊŦŦĀĊĀĠĀŦŤŦĠŦĠĀĀĀĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTA 766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ccaandectereretarecacifectraecressareteresectectectecactatrecta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTGAGAAAĀTCCTACCATGGTTGGACAĀGTĊTGTGGĀTTTCĀTTGĀGĀAĀĠĊĀĀĀĀĠĊĊŢ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ĊAAĀĠĊĊŤĠĀĊŤŤĊĀŤĀĊĊTĠĀĀŤĊŤĊĀĊŤŤĊĊŤĠĊĠĀĠŤĠĊĊŤĠŤĠĀĀŤĠĀĊĀĠĊŤŤŤŤ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTC 586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACATTGGGCCAACCCGAATTCTTCCCCAATCTTTATCTTTGGCTGCCAGCGAGATGTCCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACAĀGGĀCĊTGĀTGĊĀACĀGĀĀTGGGĀTTGGCTĀTGTGTTĀĀĀTGĊČĀGĊĀĀTĀČĊTGTĊ
                                                                                                                                                                                                   GI:10363618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      - CGACCTCGGAGGCATCAGGGCANAGGCTTGTGC
                                                                                                                                                                                                                                        EST 20-OCT-2000
E:3923247 5',
```

836

776

1066 725

668

809 946 548 886

826 488

428

```
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bource
                                                                                                                                                                                                                                                                                                                                                                      1119
                                                                                                                                                                                                                                                                                                                                                                                                                                                         1059
                                                                                                                                                                                               1239
                                                                                                                                                                                                                                         476
                                                                                                                                                                                                                                                                                                                              416
                                                                                                                                                                                                                                                                                                                                                                                                                365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           699 AAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        709;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   տ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information can found through the I.M.A.G.E. Consortium/LLNL at: http://inage.llnl.gov Plate: LLAM9759 row: b column: 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            High
GCAGACTCCCGAAACCAGTCCTGATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGAC
                                                                                             CACTACTCTGGATGGGACCAACAAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGA
                                                                                                                                                                                           GGCAGCATCCTTACATGGCTTCTCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTC
                                                                                                                                                                                                                                                                                 CAGCCCGCTGGTACAGGCGCTCAGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCCGTGCATCCCCGCCAGCGTGCCCAGCGTGCCAGCCGTCGCTGTTAGAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGAGACGCCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGAGACGCCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTATGAGAAGAATTAAGAACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTATGAGAAGATTAAGAACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGTGAAAGAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGTGAAAGAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATT
                                                                     CACTACTCTGGATGGGACCAACAAGCTATGCCAGTTCT-CCCTGTCCAGGAACTATCGGA
                                                                                                                                                       GGCAGCATCCTTACATGGCTTCTCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTC
                                                                                                                                                                                                                                                                                                                            CAGCCCGCTGGTACAGGCGCTCAGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ANAGCCTCCGGGTGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      quality sequence stop: 678.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /tissue_type="melanotic melanoma"
/lab_host="DH10B (phage-resistant)"
/clone_lib="NIH MGC_72"
/note="Organ: skin; "Vector: pCMV-SPORT6; Site_1: NotI;
Site_2: Sall; Cloned unidirectionally. Primer: Oligo dT.
Average insert size 2 kb. Library constructed by Life
Technologies."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  clone="IMAGE:3923247"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               _type="mRNA"
_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          32.1%;
95.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 641.2; DB 10;
Pred. No. 4.1e-169;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                920;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Å,
                                                                                                             1358
                                                                                                                                                                                               1298
                                                                                                                                                                                                                                                                                    1238
                                                                                                                                                                                                                                                                                                                                                                    1178
                                                                                                                                                                                                                                                                                                                                                                                                                                                         1118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1058
                          1418
                                                                  654
                                                                                                                                                                                                                                                                                                                                                                                                              415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              758
                                                                                                                                                       595
                                                                                                                                                                                                                                         535
                                                                                                                                                                                                                                                                                                                              475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   64
```

ঠ

음 성 음 성 음

유

```
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 11
BI816954/c
                             S
                                                                             片
                                                                                                                á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               á
문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                           ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
                                                                                                                                                          Query Match
Best Local S
Matches 647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1419 CGCCAGGCCTTCAGACAGCCAGAGCA 1444
  593
                                                                               652
                                                                                                                      169
                                     229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lawrence Livermore National Laboratory
Livermore, CA, USA
Email: help@image.llnl.gov
This read has been verified (found to hit its original self in the correct orientation), as part of the I.M.A.G.E. Consortium quality control effort. High quality sequence is defined as having 100 or more base pairs with a phred quality value of 20 or greater, where a sliding window of 4 base pairs with a phred quality value of 15 or greater marks the beginning and end of the sequence. For information on obtaining this clone, please contact info@image.llnl.gov. effort.

Plate: LLAM9388 row: k column: 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   682 bp mRNA linear EST 10-OCT imageqc 10 2000/slz410bdff41.xl Soares_NPBMC Homo sapiens cDNA clone IMAGE:4140798 3', mRNA sequence.
BI816954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Other_ESTs: BG058779
Contact: Prange CK
The I.M.A.G.E. Consortium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  resequencing for verification Unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Prange, C.K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates; 1 (bases 1 to 682)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The I.M.A.G.E. Consortium quality control effort:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kale, P.I., Harsch, T.J., Folta, P.A., Nelson, D.O., Sanders, C.G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BI816954.1 GI:15911639
                                                                                                                                                                               Similarity
    GTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCC
                         GTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCC
                                                                               AAGGTGCAACAGGACAAAGTGTT-ATTACAGAGCTCATCCAGGATTCAGCGAAACATAAG
                                                                                                                      AGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CG-CAGGGCTTCAGGAAGCCAGAGCA 736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCAGACTCCCGAACC---AGTCTGATAGGAGGAACGCAGCATCCCCAAGAAGGTGCAGAC 711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               primer: -21m13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            quality sequence stop:
                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                          /db_xref="taxon:9606"
/db_xref="taxon:9606"
/clone="IMAGE:4140798"
/tissue_type="lymphocyte"
/lab_host="DH108 (phage-resistant)"
/clone_lib="Soares_NPBMC"
/note="Organ: blood; Vector: pT7T3D-Pac; Site_1: NotI;
/site_2: EcoRI; 1st strand cDNA was primed with a Not I-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Homo sapiens"
/mol_type="mRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       . 682
                                                                                                                                                                               31.7%;
                                                                                                                                                                               Score 633; DB 12;
Pred. No. 6.9e-167;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            682.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                 Length 682,
                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EST 10-OCT-2001
                                                                                                                                                            ۲,
                                                                                                                                                          Gaps
    534
                                         288
                                                                                 594
                                                                                                                      228
```

밁 S

2;

Gaps

SfilB;

```
CONSOTTIUM OF THE CONSTRUCTION OF THE REPORT OF THIS CLONE (DKFZp686J22208) is available at the RZPD in Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6
                                                                                                                                                                                                                                                 Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany This is the 5' sequence of the clone insert Clone from S. Wiemann, Molecular Genome Analysis, German Cancer Research Center (DKPZ), Email s. wiemann@dkfz- heidelberg.de; sequenced by Qiagen (Hilden/Germany) within the cDNA sequencing consortium of the German Genome Project.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               649
                                                                                                                                                                                                                                                                                                                                                                                                                Bahr,A., Lauber,J., Mewes,H.W., Weil,B., Amid,C., Osanger,A., Fobo,G., Han,M. and Wiemann,S.
EST (Bahr,A., Lauber,J., Mewes,H.W., Weil,B., et al.)
Unpublished (2003)
Contact: MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 663)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BX479029
BX479029.1 GI:31914415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DKFZp686J22208 rl 686 (synonym: hlcc3) Homo sapiens
DKFZp686J22208 s', mkNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGT 821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AATGGATGTGTTCTÄGTGCÄCTGTTTÄGCTGGGÄTCTCCCGCTCCGCCÄCCÄTCGCTÄTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCACCATCGCTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ĠĀĠĀĀĀĀŦŦŦŦĠĊĊĠŦĠĠŦŦĠĠĀĊĀĀĀŦĊĀĠŦĀĠĀŦŦŦĊĀŦŦĠĀĠĀĀĀĠĊĀĀĀĀĠĊĊŦĊĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a a de crea e transcrio de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGGAĞCTGATGCAĞCAĞAATĞĞĞATTĞĞTTATĞTĞTTAAATĞCCAĞCAATACCTĞTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTGGGCCAACCCGAATTCTTCCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTGGGCCAACCCGAATTCTTCCCAATCTTATCTTGGCTGCCAGCGAGATGTCCTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ĠAĀĠĠĀĀĀĪĊĊĀĊĪĊĪĀĠĪĊĊĊĪĀĊĊĪĠĊĀĪŤĪĊĪĊĀĠĊĊĪĪĠĊĬĪĀĊĊĪĠĪĪĠĊĊĀĀĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCCTGGCCTCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCTCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sapiens (human)
                               /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/clone="DKFZp686J22208"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EST 04-SEP-2003
CDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         348
                                    REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                       SOURCE
ORGANISM
                                                                                                                                                                                                                                              ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                    RESULT 13
BQ670989
LOCUS
                 COMMENT
                                                                                                                                                                                                                        KEYWORDS
                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뭥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Sim
Matches 647;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                     602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    482
              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (Dases 1 to 891)

NIH-MGC http://mgc.nci.nih.gov/.

National Institutes of Health, Mammalian Gene Collection (MGC)

Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               182
                                                                                                                                                                                     Homo sapiens (human)
                                                                                                                                                                                                                                    AGENCOURT_8039377 NIH_MGC_102
5', mRNA sequence.
BQ670989
BQ670989.1 GI:21781823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                62
                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTCATCAGAAGATGCTTTGGAATACTAGAAACCTTCCACTACTCTGGATGGGACCA 1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTCTC 1262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAG 1142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTCTC 1202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGCCGACTCTGCTĂĊCTCĂGĂĠĠĊĂĠĊĂĠĠĀĊĀĀĀĠĠĊĊĠĠŦĠĊĀŦĊĊĊĠĊĊĀĠĊĠŤĠĊĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ĠĀĊŦĠĠĀĠĊĀŤĊĀĠĠĠĊĊĀĀĀĠĀĠĊĀĀĀĊŤĊĀĀĠĊŤĠĊŤĠĊĀĊĊŤĠĠĀĠĀĀĠĊĊĀĀĀŤĠĀ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAAGCAAATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCTCCAAACTTCAATTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGTGCACTGTTTAGCTGGGATCTCCGCCTCCGCCACCATCGCTATCGCCTACATCATGAA 782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGTTGGACAAATCAGTAGATTTCATT--GAGAAAGCAAAAGCCTCCAATGGATGTGTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGTGCACTGTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGTTGGACAATCAGTAGATTTCANTTGACGAAAGCAAAAGCCTCCAATGGACGTGTTCT
                                                                                                                                                                         sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /dev_stage="adult"
/lab_host="PH10B"
/clone lib="686 (synonym: hlcc3)"
/note="Vector: pTriplEx2; Site_1: SfiIA; Site_2:
CDNA-collection"
                                                                                                                                                                                                                                  GI:21781823
Strausberg,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31.7%;
98.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 632; DB 13;
Pred. No. 1.3e-166;
0; Mismatches 7;
                                                                                                                                                                                                                                                                                                  . bp
)2 Homo
                                                                                                                                                                                                                                                                                               mRNA
sapiens
                                                                                                                                                                                                                                                                                     linear EST 15-JUL-2002
cDNA clone IMAGE:6211589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 663;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
```

1082

1022 361

301 962 241 181

121

61

421

481

TITLE JOURNAL COMMENT

657

601

REFERENCE AUTHORS

VERSION KEYWORDS

ACCESSION DEFINITION

SOURCE

ORGANISM

RESULT 12 BX479029

Shoor

뫄 Ş 밁 5 밁 Ş

밁 Ş Ъ Ş Дb Ş 밁 Ś P D Ś

FEATURES

source

```
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                 1729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1429 TCAGACAGCCAGAGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1369 GAAACCAGTCCTGATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         627;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 GAAACCAGTCCTGATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CDNA Library Preparation: Rubin Laboratory
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLCM2374 row: f column: 06
High quality sequence stop: 633.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                  AGCCCCTTTGAAAAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTTGGAGAGAGCATC
                                                                                                                                                                                                                  GTGCGCAGGCGCAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAG
                                                                                                                                                                                                                                                                  GTGCGCAGGCGGCAGAAGCCAAGTGACAGAGCTGACTCGCCGGCGGAGCTGGCATGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                 GCCAGTTACTCTGCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGTATTTTGCCACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGT 1728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAGGGCTGGCACTCGGATATCTTGGCCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGC 1668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTCCTTTTCGGCCTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGGTCCCTTTTATCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGGTCCCTTTTATCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCAGACAGCCAGAGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAG
  ATGTCAGAGAACAGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGCTTTTTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGGGCTGGCACTCGGATATCTTGGCCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCCTTTTCGGCCTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /tissue_type="epidermoid carcinoma, cell line"
/lab host="DH108 (phage resistant)"
/clone_libb="NH108 (phage resistant)"
/clone_libb="NH1MGC_102"
/note="Organ: salivary gland; Vector: pOTB7; Site_1: XhoI;
/note="Corgan: salivary gland; Vector: pOTB7; Site_1: XhoI;
/site_2: EcoRI; cDNA made by oligo-dT priming.

Site_2: EcoRI; cDNA made by oligo-dT priming.
Directionally cloned into EcoRI/XhoI sites using the
following 5' adaptor: GGCACGAG(G). Library constructed
by Ling Hong in the laboratory of Gerald M. Rubin
(University of California, Berkeley) using ZAP-CDNA
synthesis kit (Stratagene) and Superscript II RT (Life
Technologies). Note: this is a NIH_MGC Library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             clone="IMAGE: 6211589"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            31.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 627; DB 13; 1; Pred. No. 4.1e-165;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 891;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                     1968
                                                                                                                                                               1908
                                                                                                                                                                                                                                                                        1848
                                                                                                                                                                                                                                                                                                                                                                                    1788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1488
600
                                                                                                           540
                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1428
```

र् 밁

8 밁 ঠ

밁

밁

ş 유 ક

ફ

밁

밁

8 밁 ş 문

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 14
BU704078
닭
                                                                     8
                                                                                                                                                                      밁
                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 673; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1969 GGCAGCATGGAAATCATTGAGGTCTCC 1995
                                                   334 GAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGT 393
                                                                                                                                                                                                                         274 TCCCAAGATGTTGCCTCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTG
                                                                                                                                                                           w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Contact: Robert Strausberg, Ph.D.

Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. Jim Lin, University of Iowa
CDNA Library preparation: Dr. M. Bento Soares, University of Iowa
CDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BU704078 THE THE TOTAL THE BUT THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE TOTAL THE T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
1. (bases 1 to 769)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BU704078.1
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BU704078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Seq primer:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IMAGE:6406486 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This clone was contributed by the Brain Molecular Anatomy Project
                                                                                                                                                                      TTCCAAGATGTTGGTTCTCTGTCGTCAGACTGCTTTCTCACTGTACTTCTGGGTAAACTG
                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /tissue type="whole brain"
/dev stage="embryo 12.5dpc"
/lab_host="DH108 (TI phage resistant)"
/lab_host="DH108 (TI phage resistant)"
/clone lib="NH18 MAP F00"
/clone lib="NH18 MAP F00"
/note="Organ: Brain; Vector: pYX- Asc; Site_1: EcoR I;
Site_2: Not I; The library was constructed according
Sonaldo, Lennon and Soares, Genome Research, 6:791-806,
1996. Denatured RNA was size fractionated on a 1% agarose
gel. First strand cDNA synthesis was primed with oligo-dT
primer containing a Not I site. Double strand cDNA was
size selected according to mRNA size fraction, ligated
with EcoR I adaptor, digested with NotI and then cloned
directionally into pYX-Asc vector. The library tag
sequence located between the Not I site and the polyA tail
is TGACAGAGCC. This library was created for the University
Iowa Brain Anatomy Project (BMAP): 'Gene Discovery in the
Developing Mouse Nervous System', supported by National
Institute of Mental Health (NIMH), Hemin Chin, Ph.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /mol_type="mRNA"
/strain="C57BL/6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     clone="IMAGE: 6406486"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   pYX-5
                                                                                                                                                                                                                                                                                                                                                                                            31.2%;
                                                                                                                                                                                                                                                                                                                                             Score 623.2; DB 13;
Pred. No. 4.4e-164;
Pred. No. 4.4e-164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       627
                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EST 15-JUL-2003
                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                62
```

8

```
JOURNAL COMMENT
                                                                                                                                                                                         REFERENCE
AUTHORS
TITLE
              FEATURES
                                                                                                                                                                                                                                                            KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                   RESULT 15
BI917706/c
                                                                                                                                                                                                                                                                                                     ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                         Locus
                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                    994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              874
                                                                                                                                                                                                                                                                                                                                                                                                                            723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             483
  cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LIN
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information
found through the I.M.A.G.E. Consortium/LINL at:
http://image.llnl.gov
Plate: LLAM11625 row: k column: 21
High quality sequence stop: 660.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  243
                                                                                                                                                                        Homo sapiens (human)
Homo sapiens
Homo sapiens
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
1 (bases 1 to 660)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      183
                                                                                                                            Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Life Technologies,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               454
                                                                                                                                                                                                                                                                                      mRNA sequence. — —
BI917706
BI917706.1 GI:16181504
EST.
                                                                                                                                                                                                                                                                                                                                   BI917706 660
603183686F1 NIH_MGC_121 Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                             AAAAGCGAGACGCCCCTCAGTCCACCCTGTGCCGACTC 1031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGGACTATGAGAAGACGATTAATAACCAGACTGGAATGTCAGGGCCANAGAGCANACTG
                                                                                                                                                                                                                                                                                                                                                                                                                      AAGAGTGCACTGTCTCAGTCCACCTCTGTGCAACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGCTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTGCTGTCTCAGAGGGTGGACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGGACTATGAGAAGAAGAATTAAGAACCAGACTGGAGGATCAGGGCCAAAGAGCAAACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGATTTGTGAAAGAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAGCTGCTGCACCTAGACAAACCCAGTGAGCCCGTGCCTGCAGCCTCAGAGGGCGGATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGATTTOTGAAAGAAAAAAGACCTACTATATCTCCGAATTTTAATTTTATGGGCCAACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ĠĊĊĀĊŦĀŦŦĠĊŤĀŤŦĠĊĊŤĀĊĀŤĊĀŤĠĀĀĠĀĠĠĀTĠĠĀĊĀŦĠŤĊŤĊŤĀĠĀŦĠĀĠĠĊŤŤĀĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAAGCAAAAGCCTCCAATGGCTGTGTGTGCTTATCCACTGCTTAGCTGGGATCTCTCGCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAAGCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTTAGCTGGGATCTCCCGCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AATGACAGCTTTTGTGÄĞAAAATCCTACCATĞĞTTĞĞACAAGTCTĞTĞĞATTTCATTĞAĞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCAĀTĀĊĊĪĠĪĊĊĀĀĀĠĊĊĪĠĀĊĪĪCĀĪĀĊCĪĠĀAĪĊĪĊĀCĪĪĊĊĪĠĊĠĀĠĪĠĊĊĪĠĪĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGCTATACCTGTCCAAAGCCTGACTTTATCCCCCGAGTCTCATTTCCTGCGTGTGCCTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGAGATGTCCTCAACAAGGACCTGATGCAACAGAATGGGGATTGGCTATGTGTTAAATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTACCTGTTGCGAACATTGGGCCAACTCGAATTCTTCCCAATCTCTATCTTGGCTGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTACCTGTTGCCAACATTGGGCCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCCCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGC 453
                                                                                                                                                                                                                                                                                                                                bp mRNA linear EST 16-OCT-2001 sapiens cDNA clone IMAGE:5247884 5',
                                                                                                                              Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                      760
                                                                                                    (LLNL)
                                                                        þe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             242
  Search
                                           유
                                                                                               뭐
                                                                                                                 δ
                                                                                                                                                  В
                                                                                                                                                                        Ś
                                                                                                                                                                                                        밁
                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
 completed:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                         1305
                                                                                                                                                                              1245
                                                                  1365
                                                                                                                                                                                                                                  1185
                                                                                                                                                                                                                                                                                      1125
                                                                                                                                                                                                                                                                                                                                             1065
                                                                                                                                                                                                                                                                                                                                                                                                  1005
                                                                                                                                                    129
                                                                                                                                                                                                         189
                                                                                                                                                                                                                                                             249
                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                              69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    657;
                                                               TCCCGAAAC 1373
 June
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
22,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30.8%;
98.2%;
2004,
```

δ 밁 Ş 밁 Ś 밁 δ 밁 Ş 멍 S 밁 Ş В á

뭐

```
TCTGGATGGACCAACAAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGAC
                                                                                                                   ATCCTTACATGGCTTCTCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTAC
                                                                                                                                                                         GCTGGTACAGGCGCTCAGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGAACAGCAATAA
                                                                                                                                                                                                                                                                                                                                                     GCATCCCGCCAGCGTA-----CCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCC
                                                                                                                                                                                                                                                                                                                                                                                           GCCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCCCTCAGTCCACCCTGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGT
                                                                                                                                                                                                                                                                 GCTGGTACAGGCGCTCAGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCTGGAGAAGCCAAATGAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAAGCGAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAAGAAGATTAAGAACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCA 944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCTGGAGAAGCCAAATGAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCCGAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAAGAAGATTAAGAACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAAAAAAAGACCTACTATATCTCCAGAACTTCAATTTTCTGGGCCAACTCCTGGACTATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAAAAAAGACCTACTATATCTCCA-AACTTCAATTTTCTGGGCCAACTCCTGGACTATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGATGAAGCTTACAGATTTGTGAAA 825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ccaaregarereraerecaererraecesereceserecesereceserecesereceser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCC-GCCACCATCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="IMAGE:5247884"
/lab_host="DH10B"
/clone_lib="NIH_MGC_121"
/note="Organ: brain; Vector: p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Site 2: ECRY (destroyed); RNA source anonymous pool of 3 fetal brains, female age 20 weeks, female age 24 weeks, and male age 26 weeks. Library is oligo-dr primed and directionally cloned (EcoRV site is destroyed upon cloning). Average insert size 1.7 kb, insert size range 0.7-3.5 kb. Library is normalized and enriched for full-length clones and was constructed by C. Gruber (Invitrogen). Research Genetics tracking code 017. Note this is a NIH_MGC Library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 615.4; DB 12;
Pred. No. 6.3e-162;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     pCMV-SPORT6; Site_1: NotI;
NA source anonymous pool of 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tracking code 017. Note:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           660;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 11,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                          1364
                                                                                                                                 1304
10
                                                                                                                                                                              130
                                                                                                                                                                                                                                                                   190
                                                                                                                                                                                                                                                                                                             1184
                                                                                    70
                                                                                                                                                                                                                      1244
                                                                                                                                                                                                                                                                                                                                                                                                1124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1004
                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1064
                                                                                                                                                                                                                                                                                                                                                        250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    765
```

Job time : 7901.16 secs

This Page Blank (uspto)

```
Minimum
Maximum
                                                                                                                                                                                                                                                                                             Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              옻
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Total number
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
   110
111
111
113
113
114
116
117
118
119
119
119
                                                                                                                                                                                                                                                                                                                                                        Pred. No.
score grea
and is der
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 80
  1991.8
1991.8
1991.8
1991.8
1991.8
1991.8
1991.8
1991.8
1991.8
1991.8
1991.8
                                                                                                                                                         1991.8
1991.8
1991.8
1991.8
1991.8
1991.8
1991.8
                                                                                                                                                                                                                                                                                             Score
                                                                                                                                                                                                                                                          1995
1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      seq
                                                                                                                                                                                                                                                                                                                                                     No. is the number of results predicted by chance to have a greater than or equal to the score of the result being printed, s derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nucleic search, using sw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      length:
length:
                                                                                                                                                                                                                                                                                             Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IDENTITY_NUC Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-029-345A-108_COPY_538_2532
1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   June 21, 2004, 12:17:10 ; Search time 1159.45 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N_Geneseq_29Jan04:*
1: geneseqn1980s:*
2: geneseqn1990s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3373863 seqs, 2124099041 residues
               atggcccatgagatgattgg.....tggaaatcattgaggtctcc 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                           geneseqn2001as:*
geneseqn2001bs:*
geneseqn2002s:*
geneseqn2003as:*
                                                                                                                                                                                                                                                                                                                                                                                                                    geneseqn2003bs:*
geneseqn2003cs:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            geneseqn2000s:*
                                                                                                                                                                                                                                                                                                                                                                                                        geneseqn2004s:*
                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
20000000000
               5145
5145
51445
51445
51445
51445
51445
51445
51445
                                                                                                                                                                                 5450
5450
3059
3496
3544
3544
3766
4790
                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gapext 1.0
                                                                                                                                                                                                                                                                     o
             ACC60559
ACC60559
ACC60559
AAS15768
AAS14639
ABK49402
ABK14474
ABN83966
ABV20833
ABV21080
ABV20978
ABV21092
ABV21092
ABV21092
ABV21092
ABV21316
ABV21316
ABV21316
ABV21316
ABV21316
ABV21316
ABV21316
ABV21316
ABV21316
ABV21316
                                                                                                                                                                                                                                                                                               Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        summaries
                                                                                                                                                                                                                                                                                                                                    SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (without alignments)
7309.622 Million cell updates/sec
Acc60559 Polynucle
Acc60572 Polynucle
Aas15768 CDNA sequ
Abk47596 CDNA enco
Abs14639 Human CDN
Abk49402 CDNA enco
Abk14474 Human pro
Abv20833 Human pro
Abv21080 Human pro
Abv21080 Human pro
Abv210978 Human pro
Abv21312 Human pro
Abv21312 Human pro
Abv21313 Human pro
Abv21314 Human pro
Abv2656 Human pro
Abv2656 Human pro
Abv2657 Human pro
Abv2657 Human pro
Abv2657 Human pro
Abv2657 Human pro
Abv27131 Human pro
Abv2857 Human pro
Abv2857 Human pro
Abv2857 Human pro
Abv28657 Human pro
Abv28657 Human pro
Abv28657 Human pro
Abv28657 Human pro
Abv28657 Human pro
Abv28657 Human pro
Abv28657 Human pro
Abv28657 Human pro
Abv28657 Human pro
Abv28657 Human pro
Abv28657 Human pro
Abv28657 Human pro
Abv28657 Human pro
Abv28657 Human pro
Abv28657 Human pro
                                                                                                                                                                                                                                                                                             Description
```

Polynucleotide relating to the invention SEQ ID NO: 108.

19-JUN-2003 ACC60559;

(first

entry)

ACC60559 standard; cDNA;

5450 ВÞ

																•					
				a	ი					Ω	a	ი	ი								
4.5	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24
382	387.8	387.8	395.4	399.2	401.2	410.2	410.2	410.2	411.2	415.2	415.2	415.2	417.2	727.6	1554.8	1653.8	1968.8	1988.6	1988.6	1988.6	1990.2
19.1	19.4	19.4	19.8	20.0	20.1	20.6	20.6	20.6	20.6	20.8	20.8	20.8	20.9	36.5	77.9	82.9	98.7	99.7	99.7	99.7	99.8
2453	2377	2377	427	438	408	461	461	461	418	467	467	467	425	749	2756	3332	2118	5111	2966	2102	3104
N	7	7	ഗ	ហ	Ç	'n	v	û	ഗ	ა	υs	v	Ç	4	σ	თ	4.	σ	4	7	σ
AAT86758	ABX10760	ACA64956	ABV10887	ABV32059	ABV10907	ABV41327	ABV32398	ABV40981	ABV11252	ABV40849	ABV31891	ABV40998	ABV10726	AAH06539	ACC60560	ABK48378	AAF30479	ACC60521	AAH99685	ADA53105	ABN59704
			٠,																		
Aat86758	Abx10760	Aca64956	Abv10887	Abv32059	Abv10907	Abv41327	Abv32398	Abv40981	Abv11252	Abv40849	Abv31891	Abv40998	Abv10726	Aah06539	Acc60560	Abk48378	Aaf30479	Acc60521	Aah99685	Ada53105	ADD S 7 US
cDNA of	Human dua	Human pro	Human pro	Human pro	Human pro	Human pro	Human pro	Human pro	Human pro	Human pro	Human pro	Human pro	Human pro	Human cDN	Polynucle	cDNA enco	Human pro	Polynucle	Human pro	Human cod	NOVET TITLE

ALIGNMENTS

```
Jackson DG,
Siemers N,
Krystek S,
                                                                                                                                                                                         20-DEC-2000; 2000US-0256868P.
30-MAR-2001; 2001US-0280186F).
01-MAY-2001; 2001US-0287735P.
05-JUN-2001; 2001US-0295848P.
25-JUN-2001; 2001US-0300465P.
                                                                                                                                                                                                                                                                                                                                                   Gene; ss; antiproliferative; hepatotropic; nephrotropic; antiarthritic; antipporiatic; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart defect; congestive heart failure; cancer; human; mouse; yeast; rat; fruitfly.
                                            disorders.
                                                      Novel polynucleotides encoding the prevention or treatment of
                                                                                       WPI; 2002-599721/64.
P-PSDB; ABR52381.
                                                                                                                                                                                                                                                              20-DEC-2001; 2001WO-US050459
                                                                                                                                                                                                                                                                                     25-JUL-2002.
                                                                                                                                                                                                                                                                                                           WO200257460-A2
                                                                                                                                                                                                                                                                                                                               Homo sapiens.
                                                                                                                                                                     (BRIM ) BRISTOL-MYERS SQUIBB CO
                                                                                                                      Peder J, Nelson T,
Bol D, Schieven G,
Mcatee P, Suchard S,
                                                       human
e.g. p
                                                                                                                        Mintier G, Ramanathan Finger J, Todderud CG, Banas D;
                                                      phosphatase polypeptides useful proliferative and cardiovascular
                                                                                                                                   C, Lee L;
Bassolino
                                                                                                                                     Ö
                                                                    in
```

The

invention relates to a novel isolated nucleic acid comprising

Ð

Claim 1; Fig 13; 801pp; English

1437

960

1377

```
8, B
                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                   ДЬ
                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뭕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SSSSSSSSSSSSSSSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 1995; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 polynucleotide having a nucleotide sequence selected from 40 polynucleotides fully defined in the specification. The polynucleotide of the invention has antiproliferative, hepatotropic, nephrocropic, antiarthritic, antipsoriatic, cardiant, and cytostatic activity. The polypucleotide may have a use in gene therapy. A polynucleotide or polynucleotide of the invention is useful for preventing, treating or ameliorating a medical condition, e.g. a proliferative disorder. They are disorders including arthritis and psoriasis, cardiovascular disorders such as congenital heart defects and congestive heart failure, and condition or susceptibility to a condition in a subject. The present sequence is used in the exemplification of the invention
                                                                                                                                                1198
                                                                                                                                                                                                                   1138
                                                                                                                                                                                                                                                                                        1078
                                                                                                                                                                                                                                                                                                                                                           1018
                                                                                                               721
                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                              958
                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                        CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATC
                                                                               CTAGTGCACTGTTTAGCTGGGATCTCCCGGTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                            CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                       ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                 atccccaagrerearricerecererecereaaareacerritereacacerritereacaaaarritre
                                                                                                                                                                                                                                                                   CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                           ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACACTGGGCCAACC
                                                                                                                                                                                                                                                                                        CAGCAGAATGGGAITGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                      ceaarrerreccaarerrarerregeregecagecagarereccaacaagaageregara
                                                                                                                                                                                                                                                                                                                                                             CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ĊTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ĠĀĊĪĠĪŦŤŤĊŤĊĀĊŤĠĨĀĊŤŤĊĨĠĠĠĨĀĀĀĊĪĠĠĀĠĀĀĠĀĠĊŤŤĊĀĀĊŤĊĨĠĬŤĊĀĊĊŤĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5450 BP; 1471 A; 1211 C; 1337 G; 1431 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 1995; ilarity 100.0%; Pred. No. 0; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 5450;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ٥,
                           840
                                                                                                                              1257
                                                                                                                                                                 720
                                                                                                                                                                                                                                                                   1137
                                                                                                                                                                                                                                  660
                                                                                                                                                                                                                                                                                                       600
                                                                                                                                                                                                                                                                                                                                        1077
                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                             1017
                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                      밁
                                                                                                    Ś
                                                                                                                                         밁
                                                                                                                                                                   Ş
                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                               Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뭥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        맑
                                 1861
                                                                                                    1801
                                                                                                                                                                        1741
                                                                                                                                                                                                            2218
                                                                                                                                                                                                                                                                                                                                                                                                                    2038
                                                                                                                                                                                                                                                                                                                                                                                                                                                      1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              961
AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                  CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCTTTGAA 1860
                                                                                                                                           GCCTACAGCTGCAGCTAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                      GCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                               ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT 1740
                                                                                                                                                                                         a caga grecerca ca criteria crece crea e ca reracega a generación de ca con con a constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo de constructivo
                                                                                                                                                                                                                                                            rcedaraterredecececcadacereracecerrecerdaceadeaderegratirirece
                                                                                                                                                                                                                                                                                  TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                   CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                 TCTCCACTGCATCGAAGTGGGAGGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC 1560
                                                                                                                                                                                                                                                                                                                                                                                                    TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGCAGCAGCCGCCCAGAGGTCCCTTTTA 1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               réereareagaagaréerrigeaaracracaaacerrecaeracreregaregaeceae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGTGCCGACTCTGCTACCTCAGAGGCAGGAGGACAAAGGCCCGTGCATCCCGGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGGAAGCCAAAT 1497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATATCTCCAAACTTCAACTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATAAGAAC
                    1920
                                                                                                                                                        1800
                                                                                                                      2337
                                                                                                                                                                                         2277
                                                                                                                                                                                                                                                                                             1680
                                                                                                                                                                                                                                                            2217
                                                                                                                                                                                                                                                                                                                                 2157
                                                                                                                                                                                                                                                                                                                                                                                                    2097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1557
```

Ş 뮹

Ó

5450; 0,

```
RESULT 2
ACC60 ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX Gene
XX Gene
XX Gene
XX Homc
XX Cong
XX ACC6
XX ACC6
XX Gene
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX ACC6
XX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ঠ
                                                         polynucleotide having a nucleotide sequence selected from 40 polynucleotides fully defined in the specification. The polynucleotide of the invention has antiproliferative, hepatotropic, nephrotropic, antiarthritic, antipsoriatic, cardiant, and cytostatic activity. The polynucleotide may have a use in gene therapy. A polynucleotide or polyneptide of the invention is useful for preventing, treating or ameliorating a medical condition, e.g. a proliferative disorder. They are also useful for treating e.g. liver disease, renal failure, immunological disorders including arthritis and psoriasis, cardiovascular disorders such as congenital heart defects and congestive heart failure, and cancer. A method of the invention is useful for disgnosing a pathological condition or susceptibility to a condition in a subject. The present sequence is used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Jackson
Siemers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20-DEC-2000; 2000US-0256868P.
30-MAR-2001; 2001US-0280186P.
01-MAY-2001; 2001US-028735P.
05-JUN-2001; 2001US-0295848P.
25-JUN-2001; 2001US-0300465P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gene; 88; antiproliferative; hepatotropic; nephrotropic; antiarthritic; antipsoriatic; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart defect;
                                                                                                                                                                                                                                                                                                                    The invention relates to a novel isolated nucleic acid comprising polynucleotide having a nucleotide sequence selected from 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20-DEC-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          congestive heart
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACC60572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACC60572 standard;
                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (BRIM )
                                                                                                                                                                                                                                                                                                                                                                                                                                              el polynucleotides
prevention or trea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           °, 'S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BRISTOL-MYERS
                        5450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGGTCACGGGAAGAGCTGGGGAAAGTGGGGCAGTCAGTCTAGCTTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                  Fig 19; 801pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Feder J, Nelson T, Mintier G, Ramanathan Bol D, Schieven G, Finger J, Todderud CG, Mcatee P, Suchard S, Banas D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2001WO-US050459
                      B₽;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   relating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          failure;
                      1471
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ides encoding 
treatment of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDNA;
                      Α,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ő
                                                                                                                                                                                                                                                                                                                                                                                  English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cancer; human; mouse; yeast; rat; fruitfly
                        1211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ၀
                                                                                                                                                                                                                                                                                                                                                                                                                                           human
e.g. p
                      Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     invention SEQ ID
                      1337
                                                                                                                                                                                                                                                                                                                                                                                                                                              proliferative and cardiovascular
                      9
                        1431
                      Ή,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö.
                      0
                      ς;
                        0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C, Lee L;
Bassolino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1980
                                                                               δ
                                                                                                                             밁
                                                                                                                                                                                                      닭
                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
Ś
                                            밁
                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                 1378
                                                                                                                                                                                                                                                                                                   1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1018
                                                                                                                                                                                                                                                                                                                                                                                    1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1995;
                                                                                                                                                                       901
                                                                                                                                                                                                                                                                                                                                          781
                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGGCCCATGAGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                    GAACCTGTCCCTGCTCTCAGAGGGTGGACAGAAAAGGGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGTGGTTGGACAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGGAATACAATACATCC
    TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                   CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                           ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                             CTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTTGCAGGTGGGTTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                              GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                               CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                     CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACTOTAGTOCOTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTTGCAGGTGGGTTTGCTGAGTTCTCTCTCTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 1995;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ٥.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
```

1020 1497

1080

1437

1377 840 1317 1197

660

1257 720 1077

600

1017

480 957 420 897 360 837 777

717 180 657 120 597 60

```
밁
                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      맑
                                                                                                                                                     2458
                                                                                                                                                                                                                                                                                               2398
                                                                                                                                                                                                                                                                                                                                                                    1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1618
                                          ATCATTGAGGTCTCC
   ATCATTGAGGTCTCC
                                                                                                                      AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                    AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 1980
                                                                                                                                                                                                                                                                AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                              GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG 1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACAGAGT CCT CACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT 1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTTTCCACCAGCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC 1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTCCACTGCATCGAAGTGGGAGCGTGGACGACAATTACGACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    rerecaersearcea a researce de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la recentración de la
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ĠĀTĀĀĠĠĀĠĠĀĀĠĊĊĀĠĊĀŦĊĊĊĊĀĀĠĀĀĠĊŦĠĊĀĠĀĊĊĠĊĊĀĠĠĊĊŦŤĊĀĠĀĊĀĠĊĊĀĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a de nadece a frece de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como dela como de la como de la como de la como de la como de la como dela como de la como de la como de la como de la como de la como dela como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG 1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                recrearcagaagargerrregaaracracagaacerrecaeraeregarggaecaae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC 1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cccadcereceaecerecaecerecereceratradadeacaececerearacaececere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2532
                                                                    1995
                                                                                                                      2517
                                                                                                                                                                                                                                                                2457
                                                                                                                                                                                                                                                                                                                                         1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1860
                                                                                                                                                                                                                                                                                                                                                                                                              2397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1617
```

RESULT 3 AAS15768

S

δ

밁

S X S

AAS15768 standard; cDNA; 3059

AAS15768;

밁 S

187 61

AGTGGAAACGGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC AGTGGAACGGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60

246

186

밁 5

Matches Query Match Best Local

Local Similarity les 1993; Conserv

Conservative

٥,

99.8%;

Score 1991.8; Pred. No. 0; 0; Mismatches

DB 6; 2

Indels Length 3059; Other;

<u>,,</u>

Gaps

```
The present invention relates to a new isolated dual specificity CC phosphatase (DUSP10) polypeptide, comprising a 665 residue amino acid CC phosphatase (DUSP10) polypeptide, comprising a 665 residue amino acid CC provides a sequence encoded by a 3059 nucleotide sequence fully defined CC provides a sequence encoded by a 3059 nucleotide sequence fully defined CC polypeptide, or fragments or variants of DUSP-10. The invention is useful CC polypeptide, or fragments or variants of DUSP-10. The invention is useful CC prostate cancer, metastasis of tumour cells, neo-anglogenesis, epilepsy, constrate cancer, metastasis of tumour cells, neo-anglogenesis, epilepsy, constrate cancer, metastasis of tumour cells, neo-anglogenesis, epilepsy, constrate cancer, metastasis of tumour cells, neo-anglogenesis, epilepsy, constrate cancer, metastasis of tumour cells, neo-anglogenesis, epilepsy, constrate, neuronal degeneration syndromes, Alzheimer's disease, depression, confiammatory processes e.g. arthritis, bowel disease, type I diabetes, inflammatory processes e.g. arthritis, bowel disease, type I diabetes, construction are also useful as vaccines for inducing immunological configuration are also useful as vaccines for inducing immunological consequence in a mammal, in disease diagnosis and in assays for screening constitute or antagonistic compounds. Other uses of the invention include in chromosome localisation studies, and as a valuable tool in tissue conficulty phosphatase, DUSP-10. DUSP-10 is located on chromosome conficitly phosphatase, DUSP-10. DUSP-10 is located on chromosome
         Sequence 3059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel dual specificity phosphatase polypeptides useful for treating cancers, epilepsy, stroke, neuronal degeneration syndromes, Alzheimer's disease, depression, schizophrenia, asthma and immune disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 5; Page 34-37; 43pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2002-010917/01.
P-PSDB; AAU09946.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10-APR-2000; 2000EP-00107143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  06-APR-2001; 2001WO-EP003966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; dual specificity phosphatase; DUSP-10; cancer; epilepsy; stroke; neuronal degeneration syndrome; Alzheimer's disease; depression; schizophrenia; asthma; immune disorder; inflammatory process; arthritis; osteoporosis; diabetes; gene therapy; chromosome 12; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200177340-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18-JUN-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MERCK PATENT GMBH.
BP; 831 A; 761 C; 709 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
127. .2124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag=  a
/product= "DUSP-10 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (dual
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           specificity phosphatase)
  758
  T; 0 U; 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DUSP-10
```

		1201 TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC 1260	ş
W abnormal cel W cell cycle a	5 × ×	1267 AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC 1326	Db
		1141 AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC 1200	Ş
		1207 CCCAGCGTGCCAGCGTGCAGCCGTTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC 1266	뮹
E cDNA encodin		1081 CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCCGCTGGTACAGGCGCTC 1140	ş
C ABK47596; X T 02-JUL-2002	XX AC	1021 TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG 1080	B 8
BK47596 D ABK47596 sta X	×+>	GAACCTGTCCCTGCTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC	뮹
SUI	R	961 GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC 1020	5
2107	Db	1027 CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT 1086	문 5
y 1981 ATC	γQ		3 8
N	da	841 ATATICTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGAATTAAGAAC 900	ş
1921	9 5	907 AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAAA	ďď
		781 AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAAA	ş
1927	2 Db	CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG	Дb
_	ΥQ	CTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCACCATCGCTATCGCCTACATCATG	ş
1867	מם	CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT	문 5
y 1741 GCC	হ	CCGTGGTTGGACAAATCAGTAGAATTTCATTGAGAAAGCAAAAGCCTCCTAATGGATTGTGTT	5
_	Db	601 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAAATTTTG 660	8 8
1681		667 CAGCAGAATGGGATTGGTTAATGTGTTAAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT 726	뮍
y 1621 TCG		541 CAGCAGAATIGGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT 600	ঠ
1687	D D	GAATTCTTCCCAATCTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG	B 2
y 1561 CTT	- V	A) CGAATTCTTCCCAATCTTTATCTTCGCCTGCCAGCGAGATCTCCTTCAACAACAACGAGCTGATA	5 8
16	Db	421 ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCCTTACCTGTTGCCAACATTGGGCCAACC 480	} \ 2
1567	Q U	487 CTTGCAGGTGTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC 546	ф
1441	. 8	361 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGCTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC 420	Ś
1507	DЬ	GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG	문 5
y 1381 GAT	8	36/ ISCAGILAGAAGGITTAKGAITAKGAILAAAGGICCCAAGAIGIIGGCGCICICICICICICICICA 428	5 5
1447	Db	TGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCCTCTCTCT	\$ 5
у 1321 ААС	Q	GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT	₽ ₽
b 1387 TCC	Db	GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT	8
1327	? B	247 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 306	B
		121 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180	ş

```
GTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                            RGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |CAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | CTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                 CATTGAGGTCTCC
                                                                   GTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                       GCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                       GCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                         GAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                           AGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                              GGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CATTGAGGTCTCC
                                                                                                                                                                                                                                                                           CTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                            AGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
2121
                                 1995
                                                                   2106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1320
                                                                                                     1980
                                                                                                                                                                                                         1986
                                                                                                                                                                                                                                           1860
                                                                                                                                                                                                                                                                                                                                                                              1740
                                                                                                                                                                                                                                                                                                                                                                                                                                              1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1386
                                                                                                                                       2046
                                                                                                                                                                       1920
                                                                                                                                                                                                                                                                            1926
                                                                                                                                                                                                                                                                                                            1800
                                                                                                                                                                                                                                                                                                                                              1866
                                                                                                                                                                                                                                                                                                                                                                                                                1806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1686
```

andard; CDNA; 3496

ВP

human dual-specificity phosphatase-3 (DSP-16) protein

first

entry)

1-specificity phosphatase-3; DSP-16; autoimmune disease; tivated protein kinase; MAP; Duchenne muscular dystrophy; aft-versus-host disease; allergy; metabolic disease; ell growth; abnormal cell proliferation; contact inhibition; abnormality; anchorage independent cell growth; apoptosis; lar adhesion; DSP-16 modulator; chromosome 12p; gene; ss.

Homo

sapiens.

1041

981 420 921

```
CC The present invention relates to a new polypeptide, DSP-16, having a 665 CC least 50 % identical residues, which retains the ability to composition can be used for identifying agents which greates by the coll, so represents the ability to invention can be used for identifying agents which medulate DSP-16 CC activity, for modulation of a proliferative response in a cell, survival inhibition of cell growth or anchorage independent growth act all cell cell cycle. The identified modulates pendulate apoptosis, or the muscular dystrophy, cancer, graft-versus-host disease, autoimune cell proliferation, and cell cycle abnormalities. The present numbers autoimune cell proliferation, and cell cycle abnormalities. The present nucleic cell proliferation, and cell cycle abnormalities. The present nucleic cell sequence is that of the human dual-specificity phosphatase-3 (DSP-CC 16) gene located on chromosome 12p. This sequence encodes the human DSP-XX
                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 1993
                                                                                                                                                                                                                                                                                                                                                                        Sequence 3496 BP; 939 A; 854 C; 856 G; 847 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New DSP-16 polypeptide, useful for identifying modulators of its activity, which can be used in the treatment of disorders such a Duchenne muscular dystrophy, or cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 7; Fig 1; 87pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2002-315802/35.
P-PSDB; AAU79156.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            26-SEP-2000; 2000US-0235487P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25-SEP-2001; 2001WO-US030124.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (CEPT-) CEPTYR INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO200226997-A2.
                                                                  802
                                        301
                                                                                          241
                                                                                                                    742
                                                                                                                                                181
                                                                                                                                                                         682
                                                                                                                                                                                                  121
                                                                                                                                                                                                                             622
                                                                                                                                                                                                                                                                                                                                  1993;
                                                                                                                                                                                                                                                                                562
                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RM,
                       GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                  GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240
                                                                                                                                                                         CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                GĀCĀĀĀĠTĠŦŦĀĀŦŦĀĊĀĠĀĠĊŦĊĀŦĊĊĀĠĊĀŦŶĊĀĠĊĠĀĀĀĊĀŤĀĀĠĠŤŦĠĀĊĀŤŦĠĀŤ
                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                        ĊĀĊĀTŦŤŤĠĠĀĀĠĊĊĀŤŤĀĀŤĀŤĊĀĀĊŤĠĊŤĊĆĀĀĠĊŤŤĀŤĠĀĀĠĊĠĀĀĠĠŤŤĠĊĀĀĊĀĠ
                                                                                                                                                                                                            AGTGGAACGGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                              ATGGCCGATGAGATGATTGGAAACTCGAAATTGTTACTGAGAGGTTGGTGGCTGCTGGTAGGAA 621
                                                                                                                                                                                                                                                                                ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Wei B;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
562. .2559
/*tag= a
/product= "Human dual-specificity phosphatase-3 (DSP-16)
protein"
                                                                                                                                                                                                                                                                                                                                        99.8%;
                                                                                                                                                                                                                                                                                                                              0,
                                                                                                                                                                                                                                                                                                                                        Score 1991.8;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                 DB 6;
                                                                                                                                                                                                                                                                                                                        2
                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                               Length 3496
                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     as
                                                861
                                                                                                    801
                                                                                                                                                                                  180
                                                                                                                                                          741
                                                                                                                                                                                                             189
                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                    0;
                                                         В
                                                                                Ś
                                                                                                             밁
                                                                                                                                 Ś
                                                                                                                                                               В
                                                                                                                                                                                        Ş
                                                                                                                                                                                                                     뮍
                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                         뮍
                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                          뮍
                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                   맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                              1381
                                                        1882
                                                                                1321
                                                                                                            1822
                                                                                                                                    1261
                                                                                                                                                               1762
                                                                                                                                                                                         1201
                                                                                                                                                                                                                                             1141
                                                                                                                                                                                                                                                                       1642
                                                                                                                                                                                                                                                                                                                           1582
                                                                                                                                                                                                                                                                                                                                                   1021
                                                                                                                                                                                                                                                                                                                                                                               1522
                                                                                                                                                                                                                                                                                                                                                                                                                                 1462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1342
                                                                                                                                                                                                                                                                                                                                                                                                       961
                                                                                                                                                                                                                                                                                                                                                                                                                                                           901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           601
GATAAGGAGGAGGCAGCATCCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                        a A G CTATG C CAGTT CT C C C C TGTT C A G G A CTAT C G G A G C T C C C G A A A C C A G T C C T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421 ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                         AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     862
                                                                                            TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC 1320
                                                                                                                                                TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                               TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC 1260
                                                                                                                                                                                                   AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                     AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                       CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC 1140
                                                                                                                                                                                                                                                      cccadcdreccadcdrecadccercecretradaddacadccccccredracadcccccrc 1701
                                                                                                                                                                                                                                                                                                           TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                           TGTGCCGACTCTGCTACCTCAGAGGCAGGACAAAAGGCCCGTGCATCCCGGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                               ĠĀĀĊĊŦĠŦĊĊĊŦĠĊŦĠŦĊŦĊĀĠĀĠĠĠŦĠĠĀĊĀĠĀĀĀĀĠĊĠĀĠĀĊĠĊĊĊĊŦĊĀĠŦĊĊĀĊĊĊ
                                                                                                                                                                                                                                                                                                                                                                                GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC 1020
                                                                                                                                                                                                                                                                                                                                                                                                                 cadactrodadcarcadodoccaaadadcaaactrodadctroctocacctrodadadoccaaat 1521
                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT 960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATATÉTÉCAAÁCTTCAÁTTTTÉCTGGGÉCCAÁCTCÉTGGACTÁTGÁGAÁGÁÁGÁTTAÁGAÁC 1461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAGAGGĀTĠGĀCĀTĠTĊTTTĀGĀTĠĀĀGČTTĀCĀGĀTTTGTĠĀĀĀĞĀĀĀĀĀĀĀĀĀGĀCČTĀCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             dradrádadridrirhadoridadardroddedriddedaddaddaddaddaddaddardardard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ĊĊĠŦĠĠŦŦĠĠŔĊĀĀŔŦĊĸĠŦŔĠŔŦŦŦĊŖŦŦĠŔĠŔĸŔĠĊĸĸĸŔĠĊĊŦĊĊĄĸŦĠĠĸŦĠŦĠŦŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCCCCGÁGTCTCÁTTTCCTGCGTGTGCCTGTGÁÁTGÁCÁGCTTTTGTGÁGÁÁÁÁTTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A CTCTA GTCCTA CCTGCATTTCTCA GCCTTGCTTA CCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ctrideaddridddritrideridadrirereiteriddritriceeriddeeteridaaddaaaaaree
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                        1941
                                                                                            1881
                                                                                                                                                 1821
                                                                                                                                                                                                   1761
                                                                                                                                                                                                                             1200
                                                                                                                                                                                                                                                                                                             1641
                                                                                                                                                                                                                                                                                                                                     1080
                                                                                                                                                                                                                                                                                                                                                             1581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
```

밁 Ş 뭐 Ś Ъ Ş 밁 Ş

밁 á

```
RESULT 5
AAS14639
ID AAS1
XX
AC AAS1
DT 18-1
XX
DE Hum
XX
Hum
KW Hum
KW Den
KW Ce
KW Ce
KW Ce
KW Ce
KW Ce
KW Ce
XX
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
FFT C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ર્
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                           Human; ss; dual specificity phosphatase 21117; hepatotropic; cytostatic; hematopoietic disorder; autoimmune disorder; diabetes mellitus; rheumatopoietic disorder; sclerosis; Crohn's disease; liver disorder; erythroid associated disorder; haemolytic anaemia; cellular proliferative; differentiative disorder; leukaemia;
                                                                                                                                                                                                                             Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAS14639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAS14639 standard; cDNA;
                   23-MAR-2001; 2001WO-US009477
                                                                                             WO200173059-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2062
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1942 GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                             sapiens.
                                                                                                                                                                                                                                                                                                                                                                                              CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGGTCACGGGAAGAGCTGGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGGGGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTCCACTGCATCGAAGTGGGAGCACGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                          encoding dual specificity phosphatase 21117.
                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                leukaemia;
                                                                                                                                                                    Location/Qualifiers 589. .2586
                                                                                                                                               /*tag=
                                                                                                                                product= "Dual specificity phosphatase 21117"
                                                                                                                                                                                                                                                                carcinoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2361
                   밁
                                                  á
                                                                                           밁
                                                                                                                          Ş
                                                                                                                                                                   밁
                                                                                                                                                                                                    S
                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                              片
                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Sim
Matches 1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2001-611635/70
P-PSDB; AAU09016.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24-MAR-2000; 2000US-0191858P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (MILL-) MILLENNIUM PHARM INC
                       1009
                                                        421
                                                                                             949
                                                                                                                                361
                                                                                                                                                                      889
                                                                                                                                                                                                       301
                                                                                                                                                                                                                                            829
                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                    769
                                                                                                                                                                                                                                                                                                                                                                                              709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        649
                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fig 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
```

 $\ensuremath{^{\prime\prime}}$ human dual specificity polypeptides and nucleic acids for diagnosis disease and treatment of e.g. liver disorders.

The invention relates to two novel human dual specificity phosphatases (designated 21117 and 38692, the nucleic acids encoding them (including fragments, allelic variants, their complements or nucleic acids that (hybridise to them) and antibodies raised against the proteins. The carbidise to them) and antibodies raised against the proteins. The nucleic acid fragments are useful for detecting the presence of the carbidody is useful for detecting the presence of the nucleic acid, for disgnosing disease. Agents (e.g. the antibody and carbies are useful for modulating the activity or expression of the polypeptide/nucleic acid, useful for the treatment of e.g. confibered in the polypeptide autoimmune disorders (e.g. disbetes mellitus, confibered in the specification) liver disorders (e.g. disbetes mellitus, confibered in the specification) liver disorders (e.g. disbetes and many others (disorders (e.g. haemolytic anaemia) cellular proliferative or carcinomas, sarcomas, metastatic cancers. Agents mydloid leukaemia), confibered in differentiative disorders, leukaemias (e.g. acute mydloid leukaemia), confibered in differentiation of a 38692 are also useful for modulating the proliferation, survival, confibered and nucleic acids are useful for identifying modulating call. The gents of the present sequence encodes the dual specificity phosphatase

Sequence 3544 BP; 1000 A; 840 C; 822 G; 882 T; 0 U; 0 Other;

61 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 1 ATGGCCCATGAGATGATTGGAAACTCAAATTGTTACTGAGAGGGTTGGTGGCTCTGCTGGAA GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC CTTGCAGGTGGGTTTTGCTGAGGTTCTCTCGTTGTTTTCCCCTGGCCTCTGTGAAGGGAAAATCC GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCCGGCCATTTGTGGAATACAATACATCC ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC Score 1991.8; Pred. No. 0; Mismatches DB 5; ₽ •-Indels Length 3544; 0; Gaps 480 1008 420 948 360 888 300 828 240 768 180 708 120 648 60 0

```
1069
             CTTTCCACCAGCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC 1620
                                                                              TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACCACCAGCTTCCTTTTCGGC
                                                      TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACCAGCTTCCTTTTCGGC
                                                                                                                                    AGCAAGCGATTGCATTTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCCTTTTA
                                                                                                                                                            AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGGCCGAGAGGTCCCTTTTA 1500
                                                                                                                                                                                                                                           GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                   GATAAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                 AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                         AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATGGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                recrearcadadadarecririogaaracracadadecrirecaeraerereggareggaecaae
                                                                                                                                                                                                                                                                                                                                                                                                          TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                            r Creregariar caaar cagrir cararrea et caeca de careca et cerracaregerre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACACAGCATAAGCTCAAGCGTTCCTTC 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        réred de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta de la recta della recta della recta della recta de la recta della recta della recta della recta della recta 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGAGCGCCCCTCAGTCCACCC 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGACTGGAGGATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGGACCTGGAGAAGAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATATETECAAACTTEAATTTTETEGGEECAACTECTGGACTATGAGAAGAAGAATTAAGAAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ctagracacratriaderadaarereeedereedeereereereereereereereere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ccdrddriddacaaarcagragarrrcarrdagaaaagcaaaagccrccaardgardrgrgrr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         caściadaardodarrodritargriftraaargccadcaaraccrorccaaadccroactrr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                      2148
                                                                                           1560
                                                                                                                                    2088
                                                                                                                                                                                                                 2028
                                                                                                                                                                                                                                                          1440
                                                                                                                                                                                                                                                                                                                                         1380
                                                                                                                                                                                                                                                                                                    1968
                                                                                                                                                                                                                                                                                                                                                                                  1908
                                                                                                                                                                                                                                                                                                                                                                                                                       1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                              1848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
New nucleic acids, designated 38692 and 21117, encoding dual specificity phosphatases for treating cell proliferation and differentiation disorders including hematopoietic and erythroid-related disorders and
                                                                                                      WPI; 2002-351088/38.
P-PSDB; AAU79929.
                                                                                                                                                                                                                                         24-MAR-2000; 2000US-0191858F
                                                                                                                                                                                                                                                                            23-MAR-2001; 2001US-00816494
                                                                                                                                                                 Meyers RA;
                                                                                                                                                                                                    (MEYE/) MEYERS R
                                                                                                                                                                                                                                                                                                                              21-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                   US2002034807-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cDNA encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABK49402;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABK49402 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2583
```

Ş

781

1369

1489

901

961

1429

음 성 뮍 Ş 뮍 Ś 밁 5 Д δ

1309

1249

721

1189

1129

541

481

601

Ş 밁 δ 밁 S 뭐 Ś 맑 5 B Ş 뫄 S 밁 Ś 片 S 밁 Š В δ 밁 Ś 밁 8 유

2029

```
Human; dual specificity phosphatase 21117; erythroid-related dishaematopoietic-related disorder; leukaemia; autoimmune disease, erythrocytosis; liver-related disorder; cancer; gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aagcagrittaaacgcagaagctigccaaatiggaattiggagagagcatcatgicagagagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGGTCACGGGAAGACTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cágaagechagreachgachgachgachgegegagerggehrgaagagagecechritgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCTACAGCTGCAGCTAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ĠĊĊŦĀĊĀĠĊŦĠĊĀĠĊĊĀĠĊŦĠĊĊĊĀĊŦŦĠĊĠĠĀĠĀĊĊĀĀĠŦĊŦĀŦŦĊŦĠŦĠĊĠĊĀĠĠĊĠĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT 1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  human dual specificity phosphatase 21117 protein.
/*tag= a
/product= "Human dual specificity phosphatase 21117"
/note= "Specifically claimed in claim 2"
                                                             Location/Qualifiers 589. .2586
                                                                                                                                                                                                                                                                                                    ВÞ
                                                                                                                                                                disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2208
```

```
ঠ
                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ર્શ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                  S
                                                                                밁
                                                                                                    ક
                                                                                                                               B
                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                    占
                                                                                                                                                                                                                                                                                                                                                                           성 유
                                                                                                                                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ঠ
                     ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 1993; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present invention relates to new nucleic acids designated 38692 and 21117 encoding dual specificity phosphatase family members. The nucleic acid, polypeptide encoded by it, and antibody specific for the polypeptide may be used to diagnose and treat haematopoietic-related disorders such as leukaemias and autoimmune diseases, erythroid-related disorders such as anaemias and erythrocytosis, liver-related disorders, and cancers, particularly of the breast, colon, adipose, prostate and lung. The present nucleic acid sequence encodes the human dual specificity phosphatase 21117 protein of the invention, as described above
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                      1009
                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                             949
                                                                                                                                                                                                                                                                                                                                                                                                                   689
                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2:
    AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAAGAAAAAAAGACCTACT
                                            CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGGCCATCGCTATCGCCTACATCATG
                                                                                                  CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                      ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                        CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                   ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                           CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                   GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                 GACTGTTTTCTCACCTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGGCCCATGAGATGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3544 BP;
                                                                                                                                                                                                                                                                                                                                                             CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1000 A; 840 C; 822 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 1991.8;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              <u>ه</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <u>.</u>
                                                                                                                                       1248
                                                                                                                                                                                                                                                                                                                                                             1008
                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        708
                                         밁
                                                                Ş
                                                                                              밁
                                                                                                                   ঠ
                                                                                                                                                   밁
                                                                                                                                                                           S
                                                                                                                                                                                                        뮍
                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                       á
                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                               뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      맑
                 1861
                                                                                                                                                                                                                                                                                                                                                                           2029
                                                                                                                                                                                                                                                                                                                                                                                                                                1969
                                                                                                                                                                                                                                                                                                                                                                                                                                                           1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                          GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                 ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                        TCGGATATCTTGGCCCCCAGACCTCTACCCCTTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                             CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                    TCTCCACTGCATCGAAGTGGGAGGGCGTGGAGGACAATTACCACCACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                           AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                 GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCTCCACTGCATCGAAGTGGGAGGAGGACAATTACCACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                 GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                              CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                             AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCCGTGCATCCCGCCAGCGTG
                                            2448
                                                                                                                                                                                                                                                                                                                                                                                                                                                           1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1488
                                                                                                 2388
                                                                                                                           1800
                                                                                                                                                                                 1740
                                                                                                                                                                                                                                      1680
                                                                                                                                                                                                                                                                2208
                                                                                                                                                                                                                                                                                           1620
                                                                                                                                                                                                                                                                                                                      2148
                                                                                                                                                                                                                                                                                                                                                 1560
                                                                                                                                                                                                                                                                                                                                                                             2088
                                                                                                                                                                                                                                                                                                                                                                                                      1500
                                                                                                                                                                                                                                                                                                                                                                                                                                 2028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1668
```

```
용 성 용 성
The present invention relates to a new polypeptide, a naturally occurring amino acid sequence at least 95 % identical to it, a biologically active fragment of it or an immunogenic fragment of it. The polypeptides, polymucleotides, agonists and antagonists are useful for diagnosing, protein phosphatases (pp), particularly immune system disorders e.g. asthma or Crohn's disease, neurological disorders e.g. esthma or Crohn's disease, neurological disorders e.g. epilepsy,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뮍
                                                                                                                                     New protein phosphatases, useful for diagnosing, treating or immune system disorders (e.g. Crohn's disease), neurological (e.g. Parkinson's disease), or cell proliferative disorders (
                                                                                                                                                                                                                                                                                                      28-JUL-2000;
03-AUG-2000;
10-AUG-2000;
18-AUG-2000;
30-AUG-2000;
08-SEP-2000;
                                                                                                                   Claim 5;
                                                                                                                                                                                                                                                                                    (INCY-)
                                                                                                                                                                                                                                                                                                                                                                               26-JUL-2001; 2001WO-US023716
                                                                                                                                                                                                                                                                                                                                                                                                                            WO200210363-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; protein phosphatase 7; PP7; immune system disorder; AIDS; acquired immunodeficiency syndrome; thymic hypoplasia; anaemia; asthma; Crohn's disease; neurological disorder; epilepsy; huntington's disease; dementia; Parkinson's disease; developmental disorder; bown's syndrome; cell proliferative disorder; cancer; adenocarcinoma; leukaemia; lymphom; melanoma; myeloma sarcoma; gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             08-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABK14474;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABK14474
                                                                                                                                                                                                                                          J YT,
TEA,
                                                                                                                                                                                           2002-188735/24.
DB; AAU75789.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1921
                                                                                                                  Page
                                                                                                                                                                                                                                                                                 INCYTE GENOMICS
                                                                                                                                                                                                                       Elliott VS, Ramku
EA, Gandhi AR, Pat
y CM, Griffin JA,
, Kearney L;
                                                                                                                                                                                                                                                                                                  1; 2000US-0221679P.
1; 2000US-0223272P.
1; 2000US-0224309P.
1; 2000US-02226728P.
1; 2000US-0229254P.
1; 2000US-0231366P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                               114-115;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              phosphatase 7 (PP7) cDNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
538..2535
/*tag= a
                                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag= a
/product= "Protein_phosphatase_7_(pp7)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CDNA;
                                                                                                                                                                                                                                          Ramkumar J,
R, Patterson
                                                                                                            117pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           entry)
                                                                                                                                                                                                                                                                                INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1995
                                                                                                                                                                                                                                  Baughn
                                                                                                            English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ВP
                                                                                                                                                                                                                             Yao MG, Bu
C, Lee EA,
MR, Yue H,
                                                                                                                                                                                                                                   Burford N, Wan
A, Hafalia AJA,
                                                                                                                                                                                                                             Warren BA,
                                                                                                                                                                                                                                              Wang
                                                                                                                                                preventing disorders
                                                                                                                                                                                                                            DAM;
en DB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2508
```

```
Ş
                                                                    밁
                                                                                              Ś
                                                                                                                                        밁
                                                                                                                                                                  Ś
                                                                                                                                                                                                   DЪ
                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                            뮍
                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                       유 &
                                                                                                                                                                                                                                                                                                                                                                                                           유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 1993; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Huntington's disease, dementia or Parkinson's disease, developmer disorders e.g. Down's syndrome, or cell proliferative disorders cancers including adenocarcinoma, leukaemia, lymphoma, melanoma, or sarcoma. The present nucleic acid sequence encodes human prote phosphatase 7 (pp7) which is one of several human protein phosphatase 7 (pp7) which is one of several human protein phosphatase 7 (pp7) which is one of several human protein phosphatase 7 (pp7) which is one of several human protein phosphatase 7 (pp7) which is one of several human protein phosphatase 7 (pp7) which is one of several human protein phosphatase 7 (pp7) which is one of several human protein phosphatase 7 (pp7) which is one of several human protein phosphatase 8 (pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 10 pp. 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 3766 BP; 1011 A; 903 C; 918 G; 934
                                                                  1318
                                                                                                                                    1258
                                                                                                                                                                                                        1198
                                                                                                                                                                                                                                                                           1138
                                                                                                                                                                                                                                                                                                                                               1078
                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                   1018
                                                                                                                                                                      721
                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          598
ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATAAGAAC
                                             CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                 ctadrdcacrdritiadcrdddarcrcccdcrccdccarcdcrarcdccaacarcarcard
                                                                                                                                    CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                   Arceceaagrerearricerecererecerereaareacerereaareacererereaaaaaarritre
                                                                                                                                                                                                                                                                           ATCCCCGAGTCTCATTTCCTGCGTGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                               CAGCAGAATGGGAITGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                          ĊĂĠĊĀĠĀĀŦĠĠĠĀŦŦĠġŦŦĀŦĠŦĠŦŦĀĀĀŦĠĊĊĀĠĊĀĀŦĀĊĊŦĠŦĊĊĀĀĀĠĊĊŦĠĀĊŦŦŦ
                                                                                                                                                                                                                                                                                                                                                                                                                   CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                              ĊĠĀĀŤŦĊŦŤĊĊĊĀĀŤĊŦŦŤĀŤĊŦŤĠĠĊŤĠĊĊĀĠĊĠĀĠĀŤĠŤĊĊŤĊĀĀĊĀĀĠĠĀĠĊŤĠĀŤĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTGCAGGTGGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ĠĀĊŦĠŦŦŦĊŦĊĀĊŦĠŦĀĊŦŦĊŦĠĠĠŦĀĀĀĊŦĠĠĀĠĀĠĀĠĊŦŦĊĀĀĊŦĊŦĠŦŦĊĀĊĊŦĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ĊĀĊĀTŦŦŦĠĠĀĀĠĊĊĀŦŦĀĀŦĀŦĊĀĀĊŦĠĊŦĊĆĀĀĠĊŦŦĀŦĠĀĀĠĊĠĀĀĠĠŦŦĠĊĀĀĊĀĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      argececargagargartgartgaacreaaarrgraacreaagagarggraggregecreggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99.8%;
99.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 1991.8;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <u>۲</u>.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      devert
disorders e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   phosphatases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                               780
         900
                                             1377
                                                                               840
                                                                                                                 1317
                                                                                                                                                                                   1257
                                                                                                                                                                                                                                                      1197
                                                                                                                                                                                                                                                                                                                                                                                              1077
                                                                                                                                                                                                                                                                                        660
                                                                                                                                                                                                                                                                                                                            1137
                                                                                                                                                                                                                                                                                                                                                            600
                                                                                                                                                                                                                                                                                                                                                                                                                                                              1017
                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
```

1378

ATATETECAAACTTEAATTTTETGGGCCAACTECTGGACTATGAGAAGAAGATTAAGAAC

ð

В

á

밁

S

밁

닭

```
1801
                                                                                                                                                                                                                                                                                                                                                                                           2218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1081
                                                                                                                                                                                                                                                                                                                                                                                                                                   1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1498
                                                                                                                                                                                                                                           AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
ATCATTGAGGTCTCC 1995
                                                                   AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 1980
                                                                                                                                                      AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                   CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGGGGGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                                      GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                     GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                      ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                 ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCGGATATCTTGGCCCCCCAGACCTCTACCCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTCCACTGCATCGAAGTGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GATAAGGAGGAAGCCAGCATCCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAGCTATGCCAGTTCTCCCCCTGTTCAGGAACTATCGGAGCAGACTCCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGTGCCGACTCTGCTACCTCAGAGGGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGACTGGAGCATCAGGGCCAAAGAGCCAAACTCAAGCTGCTGCACCTGGAGAAAGCCAAAT
                                                                                                                               AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGCAGCGCCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                          AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                          2517
                                                                                                                               2457
                                                                                                                                                                                                                2397
                                                                                                                                                                                                                                                           1860
                                                                                                                                                                                                                                                                                                                                              1800
                                                                                                                                                                                                                                                                                                                                                                                         2277
                                                                                                                                                                                                                                                                                                                                                                                                                                 1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1497
                                                                                                                                                                                                                                                                                                      2337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        960
```

Ś В ક B Ś 밁 ð 밁 á

밁

В ð 밁 ঠ 밁 S 밁 ş 밁 ঠ 밁 ঠ 밁 S

8 S 밁 ঠ

S

181

GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240

363

243

60

```
Ś
밁
                                                         밁
                                                                              Ş
                                                                                                         문
                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                          Query Match
Best Local S
Matches 1993
                                                                                                                                                                                                                                   polynucleotides of the invention may be used in the investigation of differential expression of the DNA sequences in normal subjects and disease patients. They may also be used in the production of antibodies, oligonucleotide probes and DNA chips for diagnosis and identification of drugs for treatment of diseases with which the DNA sequences are associated. The sequences given in records ABN83954-ABN83984 represent human gene sequences of the invention
                                                                                                                                                                                                                                                                                                                             The invention relates to DNA encoding polypeptides directly clone cDNA libraries originating in adult whole brain, human tonsil, hu adult hippocampus and human foetal whole brain. Polypeptides and
                                                                                                                                                                                                              Sequence 4790
                                                                                                                                                                                                                                                                                                                                                                                                             Genes and 
treatment
                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2002-500762/53.
P-PSDB; ABB97946.
                                                                                                                                                                                                                                                                                                                                                                                Claim 1(a); Page 111-117; 238pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22-DEC-2000; 2000JP-00389742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20-DEC-2001; 2001WO-JP011217.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         04-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200252005-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; brain; tonsil; hippocampus; foetal brain; diagnosis; gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human gene sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABN83966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABN83966 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (KAZU-) KAZUSA DNA RES INST FOUND. (CELE-) CELESTAR LEXICO-SCI LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2518
      304
                              121
                                                         244
                                                                                                                                                             1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sapiens.
                                                                                                           184
                                                                                61
                                                                                                                                                                      Similarity
                                                                                                          ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                     CACATTITGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180
                                                         AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                      AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
      CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           their expression products cloned from human cDNA libraries for and diagnosis of diseases associated with their expression.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nagase T,
                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first
                                                                                                                                                                                                              BP; 1293 A; 1064 C; 1152 G; 1281 T; 0 U; 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
184. .2181
/*tag= a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA; 4790
                                                                                                                                                                        99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                #13.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nakajima D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2532
                                                                                                                                                            0;
                                                                                                                                                                        Score 1991.8;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В₽
                                                                                                                                                             Mismatches
                                                                                                                                                                                     DB 6;
                                                                                                                                                            2
                                                                                                                                                             Indels
                                                                                                                                                                                     Length 4790;
                                                                                                                                                                                                               Other;
                                                                                                                                                            0.
                                                                                                                                                                                                                                                                                                                                                          cloned from
                                                                                                                                                                                                                                                                                                                                            human
                                                                                                                                                            Gaps
```

음 성 음

1	364 GACAAAGTCTTAATTAACAAACTCTTATTAACTAACAACTCTTAATTAACAAACTCTTTAATTAACAAACTCTTAATTAACAAACTCTTAATTAACAAACTCTTAATTAACAAACTCTTAATTAACAAAACTCTTAATTAACAAAACTCTTAATTAACAAAACTCTTAATTAACAAAAACTCTTAATTAACAAAAAA
DB 1444 TOCTONICAMAGNICTITICACTRICACTACCTRICACTACCATACCTACCAAACCAC 1903 1504 MACTANICAMACTACITICACTTRICACACACCACCACCACCACCACCACCACCACCACCACCA	

В

Ś

유 성

8 8 8 8 8 8

8 8 8

음 성

SXCCCCCCCCCCXSX7777X8X8X8

```
Query Match
Best Local Simi
Matches 1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to an isolated nucleic acid molecule (I) comprising a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for: (a) assessing whether a patient is afflicted with prostate cancer; (b) monitoring the progression of prostate cancer in a patient; (c) assessing the efficacy of a test compound to inhibit prostate cancer in a patient; (d) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (e) selecting a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate call carcinogenic potential of a compound; (g) determining whether prostate cancer has metastasized in a patient; (h) assessing the aggressiveness or indolence of prostate cancer in a patient; (I) is also useful as a pharmacodyanamic or pharmacogenomic marker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel isolated nucleic acid molecule associated with cancerous state prostate cells and correlating with presence of prostate cancer, usef for detecting presence of prostate cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            16-MAR-2000; 2000US-0189862P.
25-MAY-2000; 2000US-0207454P.
09-UUN-2000; 2000US-0211314P.
18-UUL-2000; 2000US-0219007P.
13-DEC-2000; 2000US-0255281P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 5145 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (MILL-) MILLENNIUM PREDICTIVE MEDICINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   detecting presence
                                                         481
                                                                                                                                                                      949
                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       589
                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1; Page 3419; 11750pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                       CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                     ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACACTTGGGCCAACC
                                                                                                                                                                        CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                          CTTGCAGGTGGGTTTGCTGAAGTTCTCTCGTTTGTTTTCCCTGGCCTCTGTGAAGGAAAAATCC
                                                                                                                                                                                                                                                  GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                         GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                    GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                        GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGTGGAACGGAAAAAGTGCTACTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99.8%;
ilarity 99.9%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Endege
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1408 A; 1135 C; 1253 G; 1346 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   prostate cancer, stage of prostate cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ٥,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 1991.8;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0 U; 3 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                     FCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                        1008
                                                       540
                                                                                             1068
                                                                                                                                  480
                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                           888
                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                           밁
δ
                                     밁
                                                                       S
                                                                                                               В
                                                                                                                                          5
                                                                                                                                                                                      밁
                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                   맑
                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                   1969
                                                                                                                                                                                                                                                                                                     1381
                                                                                                                                                                                                                                                                                                                                                                                                                      1849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
 TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC 1680
                                                         CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                    GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                 AAGCTATIGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                            TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCCAGCGTGCCCAGCGTGCAGCCGTCGCTTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAACCTGTCCCTGCTCTCAGAGGGTGGACAGAAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACCAGCTTCCTTTTCGGC
                                                                                                                                        TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                   GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCCAAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGCAGAATGGGGATTGGTGTTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                       CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                        TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTTAGATGAAGCTTACAGATTTGTGAAAGAAAAAAAGACCTACT
                                     2208
                                                                           1620
                                                                                                                 2148
                                                                                                                                                                                          2088
                                                                                                                                                                                                                                                                                                       1440
                                                                                                                                                                                                                                                                                                                                                                                   1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                            1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1248
                                                                                                                                                                                                                                1500
                                                                                                                                                                                                                                                                                                                                               1968
                                                                                                                                                                                                                                                                                                                                                                                                                        1908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1188
```

ર્ 밁 Ś 밁 S

중 유

밁

밁 Ś 밁 ક 밁 S

8 ર્શ

```
RESULT 10
ABV21090
ID ABV21090
ID ABV21090
ID ABV21090
ID ABV210
AC ABV210
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21
AC ABV21

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              占
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                중 음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      유 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Д
                                                                                                                                                                                                                                                                                  17-FEB-2000; 2000US-0183319P.
16-MAR-2000; 2000US-0189862P.
25-MAY-2000; 2000US-0207454P.
09-UUN-2000; 2000US-0211314P.
18-UUL-2000; 2000US-0219007P.
13-DEC-2000; 2000US-0255281P.
      The invention relates to an isolated nucleic acid molecule (I) com a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of t specification or its complement. (I) is useful for: (a) assessing a patient is afflicted with prostate cancer; (b) monitoring the progression of prostate cancer in a patient; (c) assessing the eff
                                                                                                                      Novel isolated nucleic acid molecule associated with cancerous state of prostate cells and correlating with presence of prostate cancer, useful for detecting presence of prostate cancer, stage of prostate cancer.
                                                                                                                                                                                                                                                                                                                                                                                            20-FEB-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                          23-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200160860-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; prostate pharmacogenomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABV21080;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABV21080
                                                                                                                                                                                                2001-662795/76
                                                                                                             ŗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         prostate
                                                                                                         Page
                                                                                                                                                                                                                                                           MILLENNIUM
                                                                                                                                                                                                                              ₽,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ĠĊĊŦĀĊĀĠĊŦĠĊĀĠĊĊĀĠĊŦĠĊĊĊĀĊŦŦĠĊĠĠĀĠĀĊĊĀĀĠŦĊŦĀŦŦĊŦĠŦĠĊĠĊĀĠĠĊĠĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Endege
                                                                                                      3481; 11750pp;
                                                                                                                                                                                                                                                                                                                                                                                        2001WO-US005171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  expression marker cDNA 21071.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cancer; cytostatic;
marker; gene; ss.
                                                                                                                                                                                                                                                  PREDICTIVE MEDICINE INC.
                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1995
                                                                                                        English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              carcinogen; pharmacodyanamic marker;
                                                   ) comprising of the
      efficacy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2268
                        8
                                                         문
                                                                                 δ
                                                                                                                片
                                                                                                                                        Ś
                                                                                                                                                                      Вþ
                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                               뮍
                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                          Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       អ្នកស្ត្រស្ត្រ
អនុស្ត្រ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 1993;
1429
                                                        1369
                                                                                                                 1309
                                                                                                                                                                             1249
                           841
                                                                                                                                                                                                                                      1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          / Match
Local (
                                                                                     781
                                                                                                                                                                                                                                                                                                1129
                                                                                                                                                                                                                                                                                                                                                                                                                 1009
                                                                                                                                              721
                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
```

```
of a test compound to inhibit prostate cancer in a patient; (d) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (e) selecting a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate cell carcinogenic potential of a compound; (g) determining whether prostate cancer has metastasized in a patient; (h) assessing the aggressiveness or indolence of prostate cancer in a patient; (f) is also useful as a pharmacodyanamic or pharmacogenomic marker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 5145 BP; 1408 A; 1135 C; 1253 G; 1346 T;
ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                 chádráchcrigirinháchtáganrchcccachtcachtcachtarcachthachtchrig
                                                                                                                                                                                                                                                                                                                                                                                 CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              c ceregriega caaarca gradarrica riga gaaa gecaaa a gecteca a regrigri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGTGGTTGGACAAATCAGTAGATTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          arcccccaagrerearrrecerses received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a received a receive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGCAGAATGGGATTGGTTÁTGTGTTÁÁATGCCÁGCAÁTÁCCTGTCCÁÁÁGCCTGÁCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ĊĠĀĀŢŤĊŤŤĊĊĊĀĀŤĊŤŤŤĀŤĊŤŤĠĠĊŤĠĊĊĀĠĊĠĀĠĀŤĠŤĊĊŤĊĀĀĊĀĀĠĠĀĠĊŤĠĀŤĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a crera drece racer de la recentación de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della comp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTTGGCCTCTGTGAAGGAAAAATCC 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         réchérchéhahásárítárhártrakéhatásárártócháháhásárártásáctáctártrak
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACAĀAGTĠTTĀĀTTĀCĀĠĀĠĊŤĊĀTĊĊĀĠĊĀTŤĊĀĠĊĠĀĀĀĊĀTĀĀĠĠŤŤĠĀĊĀTŤĠĀŢ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GACAAAGTGTTAAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ċacatriridga/agccatri/aatarca/actroctroca/agctri/arga/agcga/aggrigga/aca/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGGCCCATGAGATGGTTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ategececareadareattegaacteaaattettacteaagagettegetegeteecteegaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99.8%;
ilarity 99.9%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 1991.8;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0 U; 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                     840
                               900
                                                                                                                            1428
                                                                                                                                                                                                                                                                                                                        1368
                                                                                                                                                                                                                                                                                                                                                                                                                780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
```

```
2089
                                                                                                                                                                                                                                                                                        1741
                                                                                                                                                                                                                                                                                                                               2269
                                                                                                                                                                                                                                                                                                                                                                        1681
                                                                                                                                                                                                                                                                                                                                                                                                                 2209
                                                                                                                                                                                                                                                                                                                                                                                                                                                      1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1669
                                                                                                                                                                                                      1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    901
                       AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTTCGGGCAGCATGGAA
                                                                                                     AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                               CAGAAGCCAAGTGACAGAGCTGACTCGCGGGGGGGGGCTGGATGAAGAGAGCCCCTTTGAA
                                                                                                                                                                                                                                             GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                           GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                               ACAGAGTCCTCACACTTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                             ACAGAGTCCTCACACTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTCCACTGCATCGAAGTGGGAGGGTGGAGGACAATTACCACACCAGCTTCCTTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GATAAGGAGGAAGCCAGCATCCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAGCTATGCCAGTTCCCCCTGTTCAGGAACCTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAACCTGTCCCTGCTGTCTCAGAGGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                             TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCCAGCGTGCCAGCGTGCAGCCGTCGCTTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCCGTGCATCCCGCCAGCGTG
                                      1980
                                                                                                                        1920
                                                                                                                                                             2448
                                                                                                                                                                                                      1860
                                                                                                                                                                                                                                               2388
                                                                                                                                                                                                                                                                                        1800
                                                                                                                                                                                                                                                                                                                               2328
                                                                                                                                                                                                                                                                                                                                                                        1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                      1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1548
2568
                                                                               2508
                                                                                                                                                                                                                                                                                                                                                                                                                 2268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1200
```

음 성 음

8 8 8 8 8 8 8

ક

음 성 음

8 8 8 8

밁

8 8 8 8 8 8 8

음 성

ð

장 유

708

649 121 8 8 8 8

```
RESULT 11
ABV26680
ID ABV26680
XX ABV266
XX ABV26
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Human
XX Huma
              Ś
                                                                         밁
                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                  Query Match
Best Local S
Matches 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-FEB-2000; 2000US-0183319P.
16-MAR-2000; 2000US-0189862P.
25-MAY-2000; 2000US-0207454P.
09-JUN-2000; 2000US-0211314P.
18-JUL-2000; 2000US-0219007P.
13-DEC-2000; 2000US-0255281P.
                                                                                                                                                                                                                                                                                                                                        The invention relates to an isolated nucleic acid molecule (I) comprising a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for: (a) assessing whether a patient is afflicted with prostate cancer; (b) monitoring the progression of prostate cancer in a patient; (c) assessing the efficacy of a test compound to inhibit prostate cancer in a patient; (d) assessing the efficacy of a thorapy for inhibiting prostate cancer in a patient; (e) selecting a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate cancer has metastasized in a patient; (h) assessing the aggressiveness or indolence of prostate cancer in a patient; (l) is also useful as a pharmacodyanamic or pharmacogenomic marker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Novel isolated nucleic acid molecule associated with cancerous state of prostate cells and correlating with presence of prostate cancer, useful for detecting presence of prostate cancer.
                                                                                                                                                                                                                                                                                        Sequence 5145 BP; 1408 A; 1135 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 1; Page 5388-5389; 11750pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Schlegel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20-FEB-2001; 2001WO-US005171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200160860-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; prostate pharmacogenomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABV26680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABV26680
                                                                                                                                                                                  ; Local Sim
thes 1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (MILL-) MILLENNIUM PREDICTIVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2001-662795/76.
                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     prostate
                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     æ
                                                                                                                 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                            ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATCATTGAGGTCTCC
                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Endege
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     expression marker cDNA 26671.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cancer; cytostatic; carcinogen; pharmacodyanamic
marker; gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ĕ,
                                                                                                                                                                                                        99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Monahan
                                                                                                                                                                                  0;
                                                                                                                                                                                  Score 1991.8;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDICINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Œ
                                                                                                                                                                                                                                                                                             1253 G; 1346 T;
                                                                                                                                                                                                                                          BB
                                                                                                                                                                                  2;
                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                             0 U; 3
                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                             Other;
                                                                                                                                                                                  0,
                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    marker;
                                                                               648
                         120
                                                                                                                                  60
                                                                                                                                                                                     0
```

1549 GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGGAAAAGGCCCCCTCAGTCCACCC 1020 1021 TGTGCCGACTCTGTCTCAGAGGGTGGACAGAAAAGGACCCCCCCC	1811 GACAAAGTGTTAATTACAAAGTCAACTACTAGGAAAAGTTTAGGAAAGTTTAGAAAGCTAATTAGATTAGAAAGCTTAGAAAGTTTAGAAAGTTTAGAAAGTTTAGAAAGTTTAGAAAGTTTAGAAAGTTTAGAAAGTTTAGAAAGTTTAGAAAGTTTAGAAAGTTTAGAAAGTTTAGAAAGTTTAGATTTAAAAAGTTAGAAAGTTTAGAAAGTTTAAATTACAAAAGTTTAAAATTCAAAAGTTTAAAATTCAAAAGTTTAAATTACAAAAGTTTAAATTACAAAAGTTTAAAATTCAAAAAGTTTAAATTACAAAAGTTTAAAATTCAAAAATTCAAAAATTCAAAAATTCAAAAATTCAAAAATTCAAAAATTCAAAAATTCAAAAATTCAAAAATTCAAAAATTCAAAAATTCAAAAATTCAAAAAA
RE ABB ADD XX AC AC AC AC AC AC AC AC AC AC AC AC AC	
RESULT 12 ABV20978 XX AC ABV20978 AC ABV20978 XX DT 13-SEP-20 XX DT 13-SEP-20 XX DE Human pro XX Human; px XW Pharmacog XX Homo sapi XX PN W02001608 XX PD 23-AUG-20	
IT 12 0978 0978 ABV20978 standard; cDNA; 5145 Bp. ABV20978; ABV20978; 13-SEP-2002 (first entry) Human prostate expression marker cDNA 20969. Human; prostate cancer; cytostatic; carcinogen; pharmacodyanamic marker; pharmacogenomic marker; gene; ss. Homo sapiens. WO200160860-A2.	1789 TCTCTGGATATCAAATCAGTTTCATATTCAGCAGCATGGCAGCATCCTTACATGGCTTC 1848 1261 TCCTCATCAGAAGTGCTTTGGAACATCACAACCTTCCACCAGCATCCTTCAAACCTTCCAGAACCAACC

8 8 8 8

밁

성 음 성

Ş

중 음 중

Ś

유

유 성 유

```
Query Match
Best Local Similarity
Matches 1993; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17-FEB-2000;
16-MAR-2000;
25-MAY-2000;
09-JUN-2000;
18-JUL-2000;
13-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to an isolated nucleic acid molecule (I) comprising a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for: (a) assessing whether a patient is afflicted with prostate cancer; (b) monitoring the progression of prostate cancer in a patient; (c) assessing the efficacy of a test compound to inhibit prostate cancer in a patient; (d) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (e) selecting a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate cancer has metastazed in a patient; (f) assessing the aggressiveness or indolence of prostate cancer in a patient; (ii) is also useful as a pharmacodyanamic or pharmacogenomic marker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel isolated nucleic acid molecule associated with cancerous state prostate cells and correlating with presence of prostate cancer, use
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 5145 BP; 1408 A; 1135 C; 1253 G; 1346 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20-FEB-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (MILL-)
                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              685
                                                                                                                                                688
                                                                                                                                                                             301
                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                              769
                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                              709
                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                             649
                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1; Page 3451; 11750pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            μ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MILLENNIUM PREDICTIVE MEDICINE
                                   ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                  CTTGCAGGTGGGTTTGCTGAGGTTCTCTCGTTGTTTTCCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                 GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                   GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                             GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                             CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATGGCCCATGAGATGATTGGAAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGGCCCATGAGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                             CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                             AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; 2000US-0183319P.
; 2000US-0189862P.
; 2000US-0207454P.
; 2000US-0211314P.
; 2000US-0219007P.
; 2000US-0255281P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Endege WO,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2001WO-US005171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        presence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Monahan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        prostate cancer, stage of prostate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 1991.8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0 U; 3 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                1068
                                                 480
                                                                               1008
                                                                                                                                                948
                                                                                                                                                                             360
                                                                                                                                                                                                                888
                                                                                                                                                                                                                                                                              828
                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                              768
                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                             708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
ð
                              밁
                                                           S
                                                                                             문
                                                                                                                     δ
                                                                                                                                                       B
                                                                                                                                                                                         á
                                                                                                                                                                                                                            몽
                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                                          멂
                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                              1909
                                                                                                                                                                                                                                                             1321
                                                                                                                                                                                                                                                                                             1849
                                                                                                                                                                                                                                                                                                                                                            1789
                                                                                                                                                                                                                                                                                                                                                                                          1201
                                                                                                                                                                                                                                                                                                                                                                                                                           1729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
 CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                               TCTCCACTGCATCGAAGTGGGAGGGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                   AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCCAGAGGTCCCCTTTTA
                                                                                                                                                              GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                              TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGTGCCGACTCTGCTACCTCAGAGGGCAGGAGCAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                             AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGATTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                 TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                             TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                            AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAAGCCTGACTTT
   1620
                                                                                                2088
                                2148
                                                                1560
                                                                                                                                                               2028
                                                                                                                                                                                               1440
                                                                                                                                                                                                                                1968
                                                                                                                                                                                                                                                              1380
                                                                                                                                                                                                                                                                                               1908
                                                                                                                                                                                                                                                                                                                             1320
                                                                                                                                                                                                                                                                                                                                                                                            1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1128
                                                                                                                                                                                                                                                                                                                                                             1848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
```

음 성

8 8 8 8 8 8 8 8 8

음 성 음

ર્ફ

```
RESULT 13
ABV21092
ID ABV21
XX ABV21
XX ABV21
XX ABV21
XX ABV21
XX Human
XX Human
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Clair
XX Clair
XX Clair
XX Clair
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        음 성 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            청 참
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                 17-FEB-2000; 2000US-0183319P.
16-MAR-2000; 2000US-0189862P.
25-MAY-2000; 2000US-0207454P.
09-UUN-2000; 2000US-0211314P.
18-UUL-2000; 2000US-0219007P.
13-DEC-2000; 2000US-0255281P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뭥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                               Novel isolated nucleic acid molecule associated with cancerous state prostate cells and correlating with presence of prostate cancer, usef for detecting presence of prostate cancer, stage of prostate cancer.
                  The invention
                                         Claim 1; Page 3485; 11750pp; English
                                                                                                                                                                                                                    (MILL-) MILLENNIUM
                                                                                                                                                                                                                                                                                                                                                                     20-FEB-2001; 2001WO-US005171
                                                                                                                                                                                                                                                                                                                                                                                                                                          W0200160860-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; prostate pharmacogenomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human prostate expression marker cDNA 21083.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABV21092 standard; cDNA; 5145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABV21092;
                                                                                                                                                    2001-662795/76.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2149
                                                                                                                                                                                  ₽,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTTGGAGAGAGCATCATGTCAGAGAAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC 1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGAAGCCAAGTGACAGAGCTGACTCGCGGGGGGGGGGTGGCATGAAGAGAGCCCCTTTGAA 1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ĊĀĠĀĀĠĊĊĀĀĠŦĠĀĊĀĠĀĠĊŦĠĀĊŦĊĠĊĠĠĠĠĠĠĀĠĊŦĠĠĊĀŦĠĀĀĠĀĠĀĠĀĊĊĊĊŦŦŢĠĀĀ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a cadadricere a carerra de la comencia de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACAGAGTCCTCACACTCTACTCTGCCTCAGCCATCTACGGAGGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCGGATATCTTGGCCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Endege WO,
                   relates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cancer; cytostatic; carcinogen; pharmacodyanamic marker; gene; ss.
                                                                                                                                                                                                                  PREDICTIVE
                  ť
                  цp
                                                                                                                                                                                  Monahan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2583
     isolated nucleic acid molecule
                                                                                                                                                                                                                MEDICINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ВP
(I) comprising
                                                                                     tate of
useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2208
                         Ś
                                                             밁
                                                                                       Ş
                                                                                                                             밁
                                                                                                                                                      Ş
                                                                                                                                                                                              밁
                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                            Д
                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                   뮍
                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                             멍
                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                             뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1309
                                                                                                                             1249
                                                                                                                                                                                              1189
                                                                                                                                                                                                                                                                1129
                           781
                                                                                          721
                                                                                                                                                                                                                                                                                                                               1069
                                                                                                                                                                                                                                                                                                                                                                                                 1009
                                                                                                                                                            661
                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                949
                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ب
```

```
Query Match 99.8
Best Local Similarity 99.9
Matches 1993; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for: (a) assessing whether patient is afflicted with prostate cancer; (b) monitoring the progression of prostate cancer in a patient; (c) assessing the efficacy of a test compound to inhibit prostate cancer in a patient; (d) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (e) selecting a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate cell carcinogenic potential of a compound; (g) assessing the aggressiveness or indolence of prostate cancer in a patient; (h) is also useful as a pharmacodyanamic or pharmacogenomic marker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 5145 BP; 1408 A; 1135 C; 1253 G; 1346 T; 0 U; 3 Other;
                                              CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
a A GAGA TIGA CATIGIT CTTTAGATIGA A GCTTACAGATTTIGTIGA A A GA A A A A A A GA CCTACT
                                                                                                                                                                                                                                                                                ccereerriegacaaarcaeraearricarreagaaaaecaaaaectccaareearerer
                                                                                                                                                                                                                                                                                                                          CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT 720
                                                                                                                                                                                                                                                                                                                                                                                                                      arccccdadrercarricerdegrordecergroadardacaderrriggroadaaaarrigg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cá gcá ga á reg ga registra de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition de
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGCAGAATGGGATTGGTTATGTGTTAAATGCGAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG 1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACTCTAGTCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTTGCAGGTGGGTTTGCTGAGTTCTCTGTTTGCCTGGCCTCTGTGAAGGAAAAATCC 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ĊŦŦĠĊĀĠĠſŦĠĠĠŦŦŦĠĊŦĠĀĠŦŦĊŦĊĠŦŦĠŶŦŦĊĊĊŦĠĠĊĊŦĊſĠſĠĀĀĠĠĀĀĀĀŦĊĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  réckérckághakértráhertrákcsárchakágértécéhakártértrácerterertek
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ĠĀĊĀĀĀĠŦĠŦŦĀĀŦŦĀĊĀĠĀĠĊŦĊĀŦĊĊĀĠĊĀŦŦĊĀĠĊĠĀĀĀĆĀŦĀĀĠĠŦŦĠĀĊĀŦŦĠĀŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACATTTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGTGGAÁCGGAÁAAÁGTGCTGCTAÁTTGATAGCCGGCCATTTGTGGAÁTACÁATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; Score 1991.8;
; Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <u>ب</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ۰,
                                                                                                                                          1368
                                                                 840
                                                                                                                                                                                                                                                                                    1308
                                                                                                                                                                                                                                                                                                                                                                                                                              1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      648
```

중 유

S 밁

```
1621
                                                                                                                                                                                                                                                                                                                                                      2149
                                                                                                                                                                                                                                                                                                                                                                                                                           2089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1609
                                                                                                                                                                                                           2269
                                                                                                                                                                                                                                              1681
                                                                                                                                                                                                                                                                                                                                                                                      1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                            1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1429
              AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                       GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                   ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTTACTCT
                                                                                                                                                                                                                                                                                                      TCGGATATCTTGGCCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                       CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACCAGCTGCTTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GATAAGGAGGAAGCCAGCATCCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGTGGGCTGCACCTGTCCGCAGACAGGCAGGCAGAGACAGCATAAGCTCCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAGTAAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGTGCCGACTCTGCTACCTCAGAGGCAGCAGCAGCAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                           ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                    CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                               1920
                                                                                                     1860
                                                                                                                                                                        1800
                                                                                                                                                                                                                                                                                                                   1680
                                                                                                                                                                                                                                                                                                                                                                                       1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                              1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1488
2508
                                                                  2448
                                                                                                                                       2388
                                                                                                                                                                                                             2328
                                                                                                                                                                                                                                              1740
                                                                                                                                                                                                                                                                                  2268
                                                                                                                                                                                                                                                                                                                                                      2208
                                                                                                                                                                                                                                                                                                                                                                                                                           2148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  960
```

음 성 음

음 &

á 밁 Ś

61

AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC

120

648 60

ATGGCCCATGAGATGATTGGAAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA

ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA

Query Match
Best Local Similarity
Matches 1993; Conserv

Conservative

٥.

Mismatches

Indels Length

0

99.8%;

Score 1991.8; Pred. No. 0;

В 2 <u>ن</u>

5145 0,

ঠ 밁 S

음 성

문 ક 뭐 중 유

5

음 성 음

S 밁 5

멍

δ 밁 ঠ 밁 S 밁 ঠ 밁

```
RESULT 14
ABV21312
ID ABV21
XX ABV21
XX ABV21
XX ABV21
XX ABV21
XX Human
XX Human
XX Human
XX Human
XX Homo
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX Pharm
XX 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17-FEB-2000; 2000US-0183319P.
16-MAR-2000; 2000US-0189862P.
25-MAY-2000; 2000US-0207454P.
09-JUN-2000; 2000US-0211314P.
18-JUL-2000; 2000US-0219007P.
13-DEC-2000; 2000US-0255281P.
                                               The invention relates to an isolated nucleic acid molecule (I) comprising a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for: (a) assessing whether a patient is afflicted with prostate cancer; (b) monitoring the progression of prostate cancer in a patient; (c) assessing the efficacy of a test compound to inhibit prostate cancer in a patient; (d) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (e) selecting a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate cancer has metastatized in a patient; (f) assessing the aggressiveness or indolence of prostate cancer in a patient; (h) assessing the aggressiveness or indolence of prostate cancer in a patient.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novel isolated nucleic acid molecule associated with cancerous state prostate cells and correlating with presence of prostate cancer, used for detecting presence of prostate cancer.
   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Schlegel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20-FEB-2001; 2001WO-US005171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     23-AUG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; prostate pharmacogenomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  13-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABV21312;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABV21312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (MILL-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  prostate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MILLENNIUM
   5145 BP; 1408 A; 1135 C; 1253 G; 1346 T; 0 U; 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Page 3539; 11750pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  aggtcacgggaagagctggggaaagtgggcagtcagtctagcttttcggggcagcatggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Endege
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  expression marker cDNA 21303.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            marker;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PREDICTIVE MEDICINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ŏ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cytostatic; carcinogen; gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Monahan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ₽P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     pharmacodyanamic marker;
   Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2568
```

1549 GARCETGECCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCCAGTCCACCC 1020 1549 GAACCTGTCCCTGCTGTCTCAGAGGTTGGACAGACAGCGAGACGCCCCCAGTCCACCC 1608 1021 TGTGCCGACTCTGCTACCTCAGAGGTTGGACAGACAGAAAAGCGAGACGCCCCCAGACCCC 1608 1021 TGTGCCGACTCTGCTACCTCAGAGGCAGCAGACAAAAGCGAGACCCCCCCC	
RES ABV ID XX AC XX XX XX XX XX XX XX XX XX XX XX XX XX	8
RESULT 15 ABV21316 ID ABV21316 standard; cDNA; 5145 BP. XX AC ABV21316; XX DT 13-SEP-2002 (first entry) XX DE Human prostate expression marker cDNA 21307. XX XX KW Human; prostate cancer; cytostatic; carcinogen; pharmacodyanamic marker; XX XX CS Homo sapiens.	Db 1729 AGTGGGCTGCACCTGTCCCCCACAACAGCCAATTAAGCCTCAAAGCCGTTCCTTC 1788 1720 TCTCTGGATATCAAATCAGTTTCATATCAGCCACACAGCAGCAACTAAGCCTTCCAAAGCCTTCCTT

Б S д 8

Ş 8 Ś 뭐 Ś

Ś 밁 Ş 밁 S

Ó 밁 δ Б

Ş В S 밁 Ś 밁 Ś В Ś д 8 В

```
5
                                                                                                                                                                                   ₽
                                                                                                                                                                                                       S
                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                      ঠ
                                                                                                                                                                                                                                                                                                                                                           뭐
                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                S
                                                               음 성 음
                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17-PEB-2000; 2000US-0183319P.
16-MAR-2000; 2000US-0189862P.
25-MAY-2000; 2000US-0207454P.
09-JUN-2000; 2000US-0211314P.
18-JUL-2000; 2000US-0219007P.
13-DEC-2000; 2000US-0255281P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates to an isolated nucleic acid molecule (I) comprising a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for: (a) assessing whether a patient is afflicted with prostate cancer; (b) monitoring the progression of prostate cancer in a patient; (c) assessing the efficacy of a test compound to inhibit prostate cancer in a patient; (d) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (e) selecting a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate call carcinogenic potential of a compound; (g) determining whether prostate cancer has metastasized in a patient; (h) assessing the aggressiveness or indolence of prostate cancer in a patient; (l) is also useful as a pharmacodyanamic or pharmacogenomic marker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel isolated nucleic acid molecule associated with cancerous state prostate cells and correlating with presence of prostate cancer, used for detecting presence of prostate cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20-FEB-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200160860-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (MILL-)
                949
                                         361
                                                                                                  301
                                                                                                                              829
                                                                                                                                                         241
                                                                                                                                                                                      769
                                                                                                                                                                                                                181
                                                                                                                                                                                                                                            709
                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                    649
                                                                                                                                                                                                                                                                                                                                                             589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1; Page 3540; 11750pp; English.
                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MILLENNIUM PREDICTIVE MEDICINE
                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                               CTTGCAGGTGGGTTTTGCTGAGTTCTCTCTCTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                      GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                             GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                          CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                              CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                   AGTGGAACAGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                         AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                        ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGAAA
                                                                                                                                                                                                                                                                                                                                                                                      ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5145 BP; 1408 A; 1135 C; 1253 G; 1346 T; 0 U; 3 Other;
                                                                                                                              GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Endege
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2001WO-US005171
                                                                                                                                                                                                                                                                                                                                                                                                                                99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Monahan
                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                Score 1991.8;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                  <u>ب</u>
                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                              5145;
                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                         420
                                                                                                                                                                                                                                                                                                                      120
                1008
                                                                     948
                                                                                                  360
                                                                                                                              888
                                                                                                                                                         300
                                                                                                                                                                                      828
                                                                                                                                                                                                                240
                                                                                                                                                                                                                                            768
                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                    708
                                                                                                                                                                                                                                                                                                                                                           648
                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                    Ś
Ş
                            뭐
                                                     Ş
                                                                                 밁
                                                                                                        $
                                                                                                                                        В
                                                                                                                                                                5
                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              돲
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
  1501
                             2029
                                                        1441
                                                                                                                                                                                                    1849
                                                                                                                                                                                                                             1261
                                                                                                                                                                                                                                                           1789
                                                                                                                                                                                                                                                                                     1201
                                                                                                                                                                                                                                                                                                                  1729
                                                                                                                                                                                                                                                                                                                                            1141
                                                                                                                                                                                                                                                                                                                                                                          1669
                                                                                                                                                                                                                                                                                                                                                                                                                                 1609
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
 TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACCACCAGCTTCCTTTTCGGC
                                                                                                     GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                    TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                               AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                       CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGCAGAATGGGATTGGTTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                             AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCCCCGAGTCTCATTTCCTGCGTGTGCCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGAATICTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                             AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                    GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                           AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                    TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                     TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                  AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                          CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                   TGTGCCGACTCTGCTACCTCAGAGGCCAGCAGCAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAAGAAAAAAAGACCTACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                1440
  1560
                                                         1500
                                                                                      2028
                                                                                                                                           1968
                                                                                                                                                                       1380
                                                                                                                                                                                                    1908
                                                                                                                                                                                                                                1320
                                                                                                                                                                                                                                                                                       1260
                                                                                                                                                                                                                                                                                                                                              1200
                                                                                                                                                                                                                                                                                                                                                                         1728
                                                                                                                                                                                                                                                                                                                                                                                                      1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1488
                                                                                                                                                                                                                                                           1848
                                                                                                                                                                                                                                                                                                                   1788
                                                                                                                                                                                                                                                                                                                                                                                                                                   1668
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1068
```

Search completed: June 21, 2004, 18:35:44 Job time: 1167.45 secs

```
Tue
```

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Perfect score:
                                                                                                                                                     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                           Published Applications NA:*

1: /cgn2=6/ptodata/1/pubpna/US07 PUBCOMB.seq:*

2: /cgn2=6/ptodata/1/pubpna/US06 NEW PUB.seq:*

3: /cgn2=6/ptodata/1/pubpna/US06 NEW PUB.seq:*

4: /cgn2=6/ptodata/1/pubpna/US06_PUBCOMB.seq:*

5: /cgn2=6/ptodata/1/pubpna/US08_PUBCOMB.seq:*

6: /cgn2=6/ptodata/1/pubpna/US08_PUBCOMB.seq:*

7: /cgn2=6/ptodata/1/pubpna/US08_PUBCOMB.seq:*

8: /cgn2=6/ptodata/1/pubpna/US08_PUBCOMB.seq:*

9: /cgn2=6/ptodata/1/pubpna/US09A_PUBCOMB.seq:*

10: /cgn2=6/ptodata/1/pubpna/US09A_PUBCOMB.seq:*

11: /cgn2=6/ptodata/1/pubpna/US09A_PUBCOMB.seq:*

12: /cgn2=6/ptodata/1/pubpna/US09A_PUBCOMB.seq:*

13: /cgn2=6/ptodata/1/pubpna/US09A_PUBCOMB.seq:*

14: /cgn2=6/ptodata/1/pubpna/US10A_PUBCOMB.seq:*

15: /cgn2=6/ptodata/1/pubpna/US10B_PUBCOMB.seq:*

16: /cgn2=6/ptodata/1/pubpna/US10B_PUBCOMB.seq:*

17: /cgn2=6/ptodata/1/pubpna/US10B_PUBCOMB.seq:*

18: /cgn2=6/ptodata/1/pubpna/US10B_PUBCOMB.seq:*

19: /cgn2=6/ptodata/1/pubpna/US10B_PUBCOMB.seq:*

19: /cgn2=6/ptodata/1/pubpna/US10B_PUBCOMB.seq:*

19: /cgn2=6/ptodata/1/pubpna/US10B_PUBCOMB.seq:*

19: /cgn2=6/ptodata/1/pubpna/US10B_PUBCOMB.seq:*
Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      June 21, 2004, 18:08:06 ; Search time 1191.09 Seconds (without alignments) 7673.060 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-029-345A-108_COPY_538_2532
1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3017426 seqs, 2290544650 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 atggcccatgagatgattgg.....tggaaatcattgaggtctcc 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.
   BG
   IJ
                                                                                             SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6034852
   Description
```

14	13	12	11	10	9	8	7	თ	υī	4.	w	N	Ľ	No.
1906.8	1962.2	1988.6	1988.6	1990.2	1991.8	1991.8	1991.8	1991.8	1991.8	1991.8	1991.8	1991.8	1991.8	Score
95.6	98.4	99.7	99.7	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	Match
2200	2071	2966	2102	2732	4790	3766	3625	3544	3544	3496	3059	1998	1998	Match Length DB
13	13	13	16	13	17	13	13	16	9	9	17	16	9	
US-10-072-012-255	US-10-072-012-257	US-10-296-115-520	US-10-094-749-673	US-10-168-506-2	US-10-648-593-115	US-10-343-357-17	US-10-425-114-26234	US-10-377-072-25	US-09-816-494-1	US-09-964-277-1	US-10-257-026-1	US-10-377-072-27	US-09-816-494-3	ID
Sequence 255, App	Sequence 257, App	Sequence 520, App	Sequence 673, App	Sequence 2, Appli	Sequence 115, App	Sequence 17, Appl	Sequence 26234, A	Sequence 25, Appl	Sequence 1, Appli	Sequence 1, Appli	Sequence 1, Appli	Sequence 27, Appl	Sequence 3, Appli	Description

ALIGNMENTS

g &	B 8	B 8	Query Best Match	; LEX ; ORC	; SEQ 1	; PRIC	; ; CURI	; TITI	; Facer	; Seque	RESULT 1
121 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180 	61 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120	1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60	Os-03-03-10-434-3 Query Match 99.8%; Score 1991.8; DB 9; Length 1998; Best Local Similarity 99.9%; Pred. No. 0; Matches 1993; Conservative 0; Mismatches 2; Indels 0; Gaps 0;	LENGTH: 1998 TYPE: DNA ORGANISM: Homo sapiens	NUMBER OF SEQ ID NOS: 10 SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 3	CURKENT FILING DATE: 2001-03-23 PRIOR APPLICATION NUMBER: US 60/191,858 PRIOR FILING DATE: 2000-03-24	FILE REFERENCE: 10448-030002 CURRENT APPLICATION NUMBER: US/09/816,494	TITLE OF INVENTION: PHOSPHATASE MOLECULES AND USES THEREFOR		3 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	16-404-3

181 SACAMAGRICTIANTINCAGAGRICANAGETTACCACCANAGETTACCATICACCANAGETTACCATICACTOR (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
--

 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 6
 8
 7
 8
 7
 8
 7
 8
 7
 8
 7
 8
 7
 8
 7
 8
 7
 8
 7
 8
 8
 7
 8
 7
 8
 7
 8
 7
 8
 7
 8
 7
 8
 7
 8
 9
 8
 8
 8
 9
 8
 8
 9
 8
 9
 8
 9
 8
 9
 8
 9
 8
 9
 8
 9
 8
 9
 9
 9
 9
 9

RESULT 2 US-10-37 Sequen ; Sequen ; Public ; GENERA ; APPLII ; APP	₽ \$	Db Db	Q i	용 &	Db	\$ B	Q	DЪ	Qy	Db	δ F	\$ \$	DЬ	γ	DЬ	Ş	Db	Q	Дβ	VΩ	Db
RESULT 2 US-10-377-072-27 US-10-377-072-27 Sequence 27, Application US/10377072 Publication No. US20040009501A1 GEMERAL INFORMATION: APPLICANT: Curtis, Rory A.J. APPLICANT: Curtis, Rory A.J. APPLICANT: Countisment Joseph APPLICANT: Meyers, Rachel E. APPLICANT: Meyers, Rachel E. APPLICANT: Miliamson, Mark J. APPLICANT: Rudolph-Owen, Laura A. APPLICANT: Chun, Miyoung APPLICANT: Tom, Miyoung APPLICANT: Tom, Miyoung APPLICANT: Tom, Fong-Ying TITLE OF INVENTION: NOVEL 25869, 25934, 26335, 50365, 21117, TITLE OF INVENTION: AND USES THEREFOR FILE REFERENCE: MFI03-0180MNIM CURRENT FILING DATE: 2003-02-27 PRIOR APPLICATION NUMBER: US/10/377,072 PRIOR APPLICATION NUMBER: US 09/895,860	1981 ATCATTGAGGTCTCC 1995 1981 ATCATTGAGGTCTCC 1995	921	921	192			1741 GCCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG 1800	74	AGTCCTCACACTTCTACTCTGCCTCAGCCATCTACCAGCAGCACTGCTACTTACT	621 TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC 168	1561 CTTTCCACCAGCAGCAGCACCTCACCAAGTCTGCCTGGCCTTGAGCGCTTAAGGGCTGGCAC 1620	.561 CTITCCACCAGCAGCAGCACCTCACGAAGTCTGCCTGGCCTG	1501 TCTCCACTGCATCGAAGTGGGAGGTGGAGGACAATTACCACCACCAGCTTCCTTTTCGGC 1560	A 15	n in	, ₁		138	1321 AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCGAGAGTCCCGAAACCAGTCCT 1380		1261 TCCTCATCAGAAGATGCTTTGGAATACTAGAAACCTTTCCATTAGTAGTAGTAGTAGTAGTAGTAGTAGTAGTAGTAGTA

```
; ORGANISM: Homo Sapiens
; FEATURE;
; NAME/KEY: CDS
; LOCATION: (1)...(1998)
US-10-377-072-27
                                                                                                                                                                 S B
                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                       ঠ
                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ક
                                                                                                            ঠ
                                                                                                                                         당
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                         뭐
                                                            · 충 · 충
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Remaining Prior Application data removed .

NUMBER OF SEQ ID NOS: 114

SOFTWARE: PastSEQ for Windows Version 4.0

SEQ ID NO 27

LENGTH: 1998

TYPE: DNA

TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 1993; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IOR FILING DATE: 2001-06-29
IOR APPLICATION NUMBER: US 60/215,370
IOR FILING DATE: 2000-06-29
IOR FILING DATE: 2000-06-29
IOR FILING DATE: 2000-11-28
IOR APPLICATION NUMBER: US 60/187,455
IOR APPLICATION NUMBER: US 60/187,455
IOR APPLICATION NUMBER: US 60/187,455
IOR APPLICATION NUMBER: US 09/843,297
IOR APPLICATION NUMBER: US 60/199,801
IOR FILING DATE: 2001-04-25
IOR APPLICATION NUMBER: US 60/199,801
IOR FILING DATE: 2000-04-26
IOR FILING DATE: 2001-05-21
IOR APPLICATION NUMBER: US 60/205,508
IOR APPLICATION NUMBER: US 60/205,508
IOR FILING DATE: 2000-05-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 2001-03-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US 09/816,494
FILING DATE: 2001-03-23
APPLICATION NUMBER: US 09/815,419
                541
                                          481
                                                                   481
                                                                                             421
                                                                                                                     421
                                                                                                                                                  361
                                                                                                                                                                         361
                                                                                                                                                                                                   301
                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                           5
CAGCAGAATGGGATTGGGTTATATATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                           ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                             CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAAATCC
                                                                                                                                                                                                                GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                   GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                         GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                               CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                              CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                         CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                         CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                     GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                        AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 1991.8;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              See
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              File
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Wrapper
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              or PALM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                          540
                                                                   540
                                                                                               480
                                                                                                                       480
                                                                                                                                                  420
                                                                                                                                                                          420
                                                                                                                                                                                                   360
                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                       밁
                                                                                                                             S
                                                                                                                                                                                                                                    र्ठ
                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                      문
                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                               닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뭉
                      ঠ
                                                                             S
                                                                                                          멍
                                                                                                                                                              В
                                                                                                                                                                                 Ś
                                                                                                                                                                                                                밁
                            1621
                                                                                                            1501
                                                                                                                                    1501
                                                                                                                                                              1441
                                                                                                                                                                                                                  1381
                                                                                                                                                                                                                                                                                              1321
                                                                                                                                                                                                                                                                                                                         1261
                                                                                                                                                                                                                                                                                                                                                                             1201
                                                                                                                                                                                                                                                                                                                                                                                                                                1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1021
                                                                                                                                                                                                                                                                                                                                                                                                      1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                          TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                   TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                       CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                            TCTCCACTGCATCGAAGTGGGAGGGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                              GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                        TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                            TCTCCACTGCATCGAAGTGGGAGGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                 GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                  AAGCTATGCCAGTTCTCCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                          TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
      reggararerregeeeeekagaeereraeeeerreeergaeeageagergerattrigee
                                                                                                                                                                                                                                                                      AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                               1680
                                                                                    1620
                                                                                                                                                                                           1500
                                                                                                                                                                                                                                           1440
        1680
                                                           1620
                                                                                                              1560
                                                                                                                                        1560
                                                                                                                                                                 1500
                                                                                                                                                                                                                    1440
                                                                                                                                                                                                                                                                                                                                                                                                                                   1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1020
                                                                                                                                                                                                                                                                       1380
                                                                                                                                                                                                                                                                                                 1380
                                                                                                                                                                                                                                                                                                                           1320
                                                                                                                                                                                                                                                                                                                                                    1320
                                                                                                                                                                                                                                                                                                                                                                                1260
                                                                                                                                                                                                                                                                                                                                                                                                         1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  660
```

DESCRIPTION OF THE PROPERTY OF	Oy 1681 ACAGAGTCCTCACACTTCTACTCTGCCTCAGCATTTACGGAGGCAGTGCCAGTTACTCT Db 1681 ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATTTACGGAGGCAGTTACTCT OY 1741 GCCTACAGCTGCAGCCAGCTGCCCACTTGCCGAGAGCCAAGTCTATTCTGTGCGCAGGTGCCAGTTACTCT Db 1741 GCCTACAGCTGCAGCCAGCTGCCCACTTGCCGAGAGCCAAGTCTATTCTGTGCGCAGGCGG OY 1801 CAGAAGCCAAGTGACAGAGCTGCCCACTTGCCGAGAGCCAAGTCTATTCTGTGCGCAGGCGG OY 1801 CAGAAGCCAAGTGACAGAGCTCACTCGCGGAGCTGATCATTCTGTGCGCAGGCGG Db 1801 CAGAAGCCAAGTGACAGAGCTCGCCGGAGCTGGAGCAGGCCCCTTTGAA 1860 OY 1861 AAGCAGTTTAAACGCAGAAGCTGCCAAATTGAAATTGAAGAGAGCCCCCTTTGAA 1860 OY 1861 AAGCAGTTTAAACGCAGAAGCTGCCAAATTGGAAATTTGGAGAGAGA
781 847 781 907 907 967 1027 961 1087 961 1087 1081 1147 1141 1267 1267 1327 1321 1387 1311 1347 1381 1381 1387 1311 1347 1381 1387 1321 1387 1387 1387 1387 1387 1387 1387 138	Db 427 GACTGTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGACTCTGAACACTGTTCACCTG 486 Qy 361 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCGCCTCTGTGAAGAAAATCC 420 487 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGAAAATCC 546 Qy 421 ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC 480 547 ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC 606 Qy 481 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAACGAGAGTGTCCTAACAAAGAGAGCTGATA 540 607 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAACGAGAGTGTCCTCAACAAAGAGAGCTGATA 540 PO CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAAGAGAGCTGATA 540 Qy 541 CAGCAGAATGGATTTGTTTATCTTGGCTGCCAACGAGAATGTCCTCAACAAAGAGAGCTGATT 600 GAACTGTTATGTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATT 600 667 CAGCAGAATGGGATTGGTTAATGTGTTAAATGCCAGCAATACCTGTCCAAAAGCCTGACTTT 726 Qy 601 ACCCCGAGTCTCATTTCCTGCGTGTGCAATGACAGCCTGACAAAATTTTG 660 727 ATCCCCGAGTCTCATTTCCTGCGTGTGCCAATGACAGCTTTTGTGAAAAAATTTTG 660 Qy 661 CCGTGGTTGGACAAATCCTGGGTGTGCCTGTTGAAAAAAATTTTG 786 Qy 661 CCGTGGTTGGACAAATCGTAGAATTTCCTGTGTGAAAAAAATTTTG 786 Qy 661 CCGTGGTTGGACAAATCGTGAGATTTCCTTGAGAAAAAATTTTG 786

ATGGCCCATGAGATGATTG	APPLICATION NUMBER: US/09/964,277 FILLING DATE: 2001-09-25 OF SEQ ID NOS: 22 OF SEQ ID NOS: 22 IE: FASTSEQ for Windows Version 4.0 TO 1 II: 3496 DNA SM: Homo sapiens SM: Homo sapiens 277-1 99.8%; Score 1991.8; DB 9; Length 3496; all Similarity 99.9%; Pred. No. 0;	RESULT 4 US-09-964-277-1 Sequence 1, Application US/09964277 Patent No. US20020137170A1 GREERRAL INCORMATION: APPLICANT: Luche, Ralf M. APPLICANT: Wei, Bo TITLE OF INVENTION: DSP-16 DUAL-SPECIFICITY PHOSPHATASE FILE REFERENCE: 200125 434	1987 AAGCAGTTTAAACGCE 1921 AGGTCACGGGAAGAGC	OY 1741 GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGAGCCAAGTCTATTCTGTGCGCAGGCGG 1800	Db 1687 CTTTCCACCAGCAGCACCTCACCAGCAGCATTACTCT 1740 1697 ACAGAGTCCTCACACTTCTACTCTGCCTCAGGCAGCAGGGGGCAGTTACTCT 1866	1441 AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA 1
1081 1642 1141 1702	901 1462 961 1522 1021	Qy 721 CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTACCATCGCCTATCGCCTATCGCCTACATCATCATCATCATCATCATCATCATCATCATCAT	601 1162 661 1222	Qy 421 ACTOTAGTICCTACCTGCATTCTCAGCCTTACCTGTTCCAACAATTGGGCCAACCTGATTCTCAGCCTTACCTGTTTCCCAACATTGGGCCAACCTGATTCTCAGCCTTACCTGTTTCCCAACATTGGGCCAACCTGATTCTCAGCCTTACCTGTTCCCAACAACAACAACCTGATACCTGTTACCTTGGCTGCCAGCAGATGTCCTCAACAAGGAGCTGATACAAGGATGTCCTCAACAAGGAGCTGATACAAGGATGTCCTCAACAAGGAGCTGATGCAACAAGGAGCTGATGCAACAAGGAATCTTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATGCAACAAGGAATGGGAATTGGTTATGTGTTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTTACTTTGTTTAAATGCCAGCAATACCTGTCCAAAAGCCTGACTTTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTTTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTTTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTTTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTTTTTTT	802 301 862 361 922	Qy 121 CACATTITGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
		SCCACCATCGCTATCGCCTACATCATG 780	AATGACAGCTTTTGTGAGAAAATTTTG 660			AGCTTATGAAGCGAAGGTTGCAACAG 180

1882 1381

1321

1261

```
Sequence 1, Application US/09816494
Patent NO. US20020034807A1
GENERAL INFORMATION:
APPLICANT: Meyers, Rachel A.
TITILE OF INVENTION: 38692 AND 21117, NOVEL DUJ
TITILE OF INVENTION: PHOSPHATASE MOLECULES AND
CURRENT FILING DATE: 2001-03-23
PRIOR APPLICATION NUMBER: US/09/816,494
CURRENT FILING DATE: 2001-03-23
PRIOR APPLICATION NUMBER: US 60/191,858
PRIOR FILING DATE: 2000-03-24
SOPTMARE: FastSEQ for Windows Version 4.0
SEQ ID NO 1
SEQ ID NO 1
LENGTH: 3544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGTTCACGGGAAGACTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGAAGCCAAGTGACAGAGCTGACTCGCGGGCGGAGCTGGCATGAAGAGAGCCCCTTTGAA 1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ĠĊĊŦĀĊĀĠĊŦĠĊĀĠĊĊĀĠĊŦĠĊĊĊĀĊŦŦĠĊĠĠĀĠĀĊĊĀĀĠŦĊŦĀŦŦĊŦĠŦĠĊĠĊĀĠĠĊĠĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          róddathreiriodececeádacereracecerreceridaceadeaderidarirridece
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCGGATATCTTGGCCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ĊŦŦŦĊĊĀĊĊĀĠĊĊĀĠĊĀĠĊĀĊĊŦĊĀĊĠĀĀĠŦĊŦĠĠĊĊŦĠĠĠĊĊŦŦĀĀĠĠĠĊŦĠĠĊĀĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACCAGCTTCCTTTTCGGC 1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCCTTTTA 1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ĠATAAĠĠAĠĠAAĠĊĊAĠĊAŦĊĊĊĊAAĠAĀĠĊŦĠĆAĠĀĊĆĠĊĊAĠĠĊĊŦŦĊAĠAĊAĠĊċAĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GATAAGGAGGAAGCCAGCATCCCCCAAGAAGCTGCAGACCGCCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAGCTATGCCAGTTCTCCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          recrearcadada da recririo da aracia de alacerreca de recrea de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de como de
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rggaagegregagagaeakartaceaeaeeagetreertriegge 2121
                                                                                                                                                                                                                                                                                    DUAL SPECIFICITY AND USES THEREFOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1821
                                                                                                                                                          Ś
                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; TYPE: DNA; CORGANISM: HOMO E; FEATURE; NAME/KEY: CDS; LOCATION: (589).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 99.8%;
Best Local Similarity 99.9%;
Matches 1993; Conservative
                                                                                                           1429
                                                                                                                                                                                                               1369
                                                                                                                                                                                                                                                                                                                  1309
                                                                                                                                                                                                                                                                                                                                                                                                                      1249
                                                            901
                                                                                                                                                             841
                                                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    649
CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                    cradredacrerradecrededarerecedecrededacearederiaredecratederia
                                                                                                                                                                                                                                                                                                                  ĊĊĠŦĠĠŦŦĠĠŔĊĀŖŔŦĊŔĠŦŔĠŔŦŦŦĊŔŦŦĠŔĠŔĸŔĠĊŔĸŔŔĠĊĊŦĊĊŔŔŦĠĠĸŦĠŦĠŦŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCGTGGTTGGACAAATCAGTAGATTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ĊĀĠĊĀĠĀĀĪĠĠĠĀŢŢĠĠŢŢĀŢĠŢŢĀĀĀŢĠĊĊĀĠĊĀĀŢĀĊĊŢĠŢĊĊĀĀĀĠĊĊŢĠĀĊŢŢŢ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ceaarrerreccaarerrarerregereccaeceaegarerreccaacaaegaegereare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   crrecaderige driving creating creating control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAAGGAAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ĠĀĊĪĠŦĪŦĒĊĒĊĀĊĪĠĪĀĊĪŦĊĒĠĠŦĀĀĀĊĪĠĠĀĠĀĀĠĀĠĊŦĪĊĀĀĊĪĊĪĠŦĪĊĀĊĊĪĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACAAAGTGTTAATTACAGAGCTCATCCAGCGATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACAAAGTGTTAATTTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGTGGAACGGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (589) . . . (2583)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; Score 1991.8;
; Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                   1428
                                                                                1488
                                                                                                                                                                                                                                                                                                                                                                                        1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1248
                                                                                                                                                                                                                                                                                                                                         780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
```

RESULT 5 US-09-816-494-1

S 멍 γQ 밁 Ś В Ś В Ş Дb δ Ъ S Ъ S 밁 S В Ś 뫄 δ 밁 Ś 맑 δ 닭

2482 1921 2422 1861

2542

ATCATTGAGGTCTCC

```
1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1489 CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                      GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                     ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                    ACAGAGTCCTCACACTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCCTCATCAGAAGATGCTTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCAGCGTGCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAACCTGTCCCTGCTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                      ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                                            GCCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTTTCCACCAGCAGCAGCACCTCACGAAGTCTGCTGGGCCTGAGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACCACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                   AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                       ANGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGCAGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                             1920
                                                                                                                                                                                                                                                                        1860
                                                                                                                                                                                                                                                                                                            2388
                                                                                                                                                                                                                                                                                                                                                 1800
                                                                                                                                                                                                                                                                                                                                                                                                                            1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1548
                                                                            2568
                                                                                                                                                                                                                                  2448
                                                                                                                                                                                                                                                                                                                                                                                       2328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1668
                                                                                                                     1980
                                                                                                                                                       2508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1020
                                                                                                             ð
                                                                                                                                                                                   8
                              δ
                                                                            밁
                                                                                                                                                       뭉
                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                  Ś
  문
```

8 8 8 8 8

중 음 중

음 성 음

8 8 8

8 8 8 8 8 8 8 8

```
APPLICANT: KUGGLIM: WUNDED, PARTICANT: CHILLANT: CHILL, MYQUING
APPLICANT: TISAI, FONG-YING
TITLE OF INVENTION: 38692, 46508, 16839, 49937, 49931 AND 49933 MOLECULES
TITLE OF INVENTION: 38692, 46508, 16839, 49937, 49931 AND 49933 MOLECULES
TITLE OF INVENTION: AND USES THREEFOR
TILE REFERENCE: MPIG-JOBOMIN
CURRENT APPLICATION NUMBER: US/10/377,072
CURRENT FILLING DATE: 2001-06-29
PRIOR APPLICATION NUMBER: US 09/895,860
PRIOR APPLICATION NUMBER: US 09/895,860
PRIOR FILLING DATE: 2001-06-29
PRIOR APPLICATION NUMBER: US 09/723,806
PRIOR FILLING DATE: 2000-06-29
PRIOR FILLING DATE: 2000-06-29
PRIOR FILLING DATE: 2000-06-29
PRIOR FILLING DATE: 2000-06-29
PRIOR FILLING DATE: 2000-06-29
PRIOR FILLING DATE: 2000-04-26
PRIOR FILLING DATE: 2000-04-25
PRIOR FILLING DATE: 2001-04-25
PRIOR APPLICATION NUMBER: US 09/843,297
PRIOR APPLICATION NUMBER: US 09/843,297
PRIOR APPLICATION NUMBER: US 09/843,297
PRIOR APPLICATION NUMBER: US 09/843,297
PRIOR APPLICATION NUMBER: US 09/843,297
PRIOR APPLICATION NUMBER: US 09/843,297
PRIOR APPLICATION NUMBER: US 09/843,297
PRIOR APPLICATION NUMBER: US 09/843,297
PRIOR APPLICATION NUMBER: US 09/843,297
PRIOR APPLICATION NUMBER: US 09/843,297
PRIOR APPLICATION NUMBER: US 09/843,297
PRIOR APPLICATION NUMBER: US 09/843,297
PRIOR APPLICATION NUMBER: US 09/843,297
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR FILLING DATE: 2001-03-23
PRIOR FILLING DATE: 2001-03-23
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR APPLICATION NUMBER: US 09/861,801
PRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; NAME/KEY: CDS
; LOCATION: (589)...(2586)
US-10-377-072-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 6
US-10-377-072-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 25, Application US/10377072 Publication No. US20040009501A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 1993; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Millennium Pharmaceuticals
APPLICANT: Curtis, Rory A.J.
APPLICANT: Logan, Thomas Joseph
APPLICANT: Logan, Thomas Joseph
APPLICANT: Meyers, Rachel E.
APPLICANT: Williamson, Mark J.
APPLICANT: Williamson, Mark J.
APPLICANT: Rudolph-Owen, Laura A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
ORGANISM: Homo S
FEATURE:
                                                                                                                        709
                                                                                                                                                                                                                                             649
                                                                                                                                                                                                                                                                                                                                                                     589
   769
                                                         181
                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                      61 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                               GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                           CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                          AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99.88;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; Score 1991.8; ; Pred. No. 0; 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 3544;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                     648
         828
                                                               240
                                                                                                                           768
                                                                                                                                                                                       180
                                                                                                                                                                                                                                                   708
                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
```

유 성

유영

δ 밁

	241 TOCAGTCMANAGETTGTAGTTTACGATCMANAGETCCCAAGAGATGTTCCCTCTCTCTCTCA 80
WESULT 7 US-10-425-114-26234 Publication No. US2004003488BA1 GENERAL INFORMATION: APPLICANT: Zhou, Yihud APPLICANT: Zhou, Jingdong APPLICANT: Kovalic, David K. APPLICANT: Screen, Steven E APPLICANT: Tabaska, Jack E APPLICANT: Cao, Yongwei TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With FILE REFERENCE: 38-21(5313)B CURRENT APPLICATION NUMBER: US/10/425,114 NUMBER OF SEQ ID NOS: 73128 SEQ ID NO 26234 LENGTH: 3625 TYPE: DNA ORGANISM: Homo sapiens FEATURE: OTHER INFORMATION: Clone ID: LIB4119-028-H6_FLI	Dy 1321 AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGGACTCCCGAAACCAGTCCT 1380 1300 AAGCTATGCCAGTTCCCCCTGTTCAGGAACCTATCCGAGACCAGTCCT 1380 1310 AAGCAGTATGCCAGTTCCCCCAAGAAGCTACCAGACCAG

유 성 Дb Ş Вb Ś Д Ş 밁 Ş 밁 Ś

음 성 B δ B 5 밁 Ş ₽ S 밁 Ş 밁 Ş Дb Ś

g g	ይ <i>&</i>	B 8	8 8	8 8	B &	8	B 8	g Q	g Qy	B 8	ß &	B 8	B 8	B 8	<u> </u>	8 8	Quer Best Mato
961 GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC 1020 	901 CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT 960 	841 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC 900 	781 AAGAGGATGGACATGTCTTTAGATGAAAGCTTACAGATTTGTGAAAGAAA	721 CTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCACCATCGCTATCGCCTACATCATG 780	661 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAAGCCTCCAATGGATGTGTT 720	601 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG 660 	541 CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT 600 	481 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540	421 ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC 480	361 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC 420	301 GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG 360	241 TGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCCAAGATGTTGCCTCTCTCT	181 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240	121 CACATTITGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180 	61 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120	1 ATGGCCCATGAGATTGGTTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60	ery Match 99.8%; Score 1991.8; DB 13; Length 3625; st Local Similarity 99.9%; Pred. No. 0; tches 1993; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
RESULT 8 US-10-343-357-17 ; Sequence 17, Application US/10343357 ; Publication No. US20040058341A1	Oy 1981 ATCATTGAGGTCTCC 1995 Db 2672 ATCATTGAGGTCTCC 2686	1921 AGSTCACGGGAAGAGCTG	181 ANGEAGITIANAC GHOMAGG IGCCAMAIGAMILIGANAGAMCHICAIGICAMAAAC	1801 CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGAGCTGGAGAGAGA	1741 GCCTACAGCTGCAGCCAGCTGCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG	1001 ACAMASICUTAMANTICIACITATUM CARTENATUM C	1021 1034 ATT 1139 CCCCCABACCT 114CCCT 11CCCT 14CCCACAGC 131 111 111 111 111 111 111 111 111 11	1561 CTTTCCACCAGCAGCACCTCACGAAGTCTGCTGGCCTTGAGGGCTTAAGGGCTGGCAC	1501 TCTCCACTGCATCGAAGTGGGAGGCTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC	1431 AGCAAGCGATITGCATICGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA 2132 AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGCACCGCCCAGAGGTCCCTTTTA	1381 GATTAAGGAGGAAGCCAGCATICCCCAAGAAGCCTGCAGACCGCCAGGCCTTCAGACAGCCAG	1321 ANGSTANGCCAGTICTCCCCTGTTCAGAAACTATCGGAGCAGACTCCCCGAAACCAGTCCT	181 ICCICATCAGAAGATGCTITGGAATACCTICCACTACTCTGGATGGGACCAAC	1201 ICICIOSALAICAMENTASCIII CANTAITASCIAGA GOCAGA GOCAGA GO	1141 AGTGGGCTGCACCTGTCCGCAGACAGCAGACAGCAATAAGCTCAAGCGTTCCTTC	1772 CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC	1021 TGTGCCGACTCTGCTACCTCAGAGGCAGGACAAAAGGCCCGTGCATCCCGCCAGCGTG

```
GENERAL INFORMATION:

APPLICANT: INCYTE GENOMICS, INC.; TANG, Y.Tom
APPLICANT: ELLIOTT, Vicki S.; RAMKUMAR, Jayalaxmi
APPLICANT: YAO, Monique G.; BURGORD, Neil
APPLICANT: YAO, Monique G.; BURGORD, Neil
APPLICANT: WANG, Yumei E.; STEWART, Elizabeth A.
APPLICANT: LEE, Ernestine A.; HAFALIA, April J.A.
APPLICANT: LEE, Ernestine A.; HAFALIA, April J.A.
APPLICANT: LEE, Ernestine A.; HAFALIA, April J.A.
APPLICANT: YUE, Henry; WARREN, Bridget A.
APPLICANT: YUE, Henry; WARREN, A.; BAGUHY, Mariah R.
APPLICANT: KEARNEY, Liam
APPLICANT: KEARNEY, Liam
APPLICANT: KEARNEY, Liam
APPLICANT: KEARNEY, Liam
APPLICANT: KEARNEY, Liam
CUTEN, Danniel B.; CHAWLA, Narinder K.
TITLE OF INVENTION: PROTEIN PHOSPHATASES
CURRENT APPLICATION UNMBER: US (10/343,357)
CURRENT APPLICATION NUMBER: US (10/343,357)
PRIOR APPLICATION NUMBER: US (0/221,679)
PRIOR APPLICATION NUMBER: US (0/221,679)
PRIOR APPLICATION NUMBER: US (0/221,679)
PRIOR APPLICATION NUMBER: US (0/223,272)
PRIOR APPLICATION NUMBER: US (0/223,272)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: US (0/224,309)
PRIOR APPLICATION NUMBER: U
                                                                                                                                                                Ş
                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; TYPE: DNA
; ORGANISM: Homo sapiens
; PEATURE:
; NAME/KBY: misc_feature
; OTHER INFORMATION: Incyte ID No. US20040058341A1 7480570CB1
US-10-343-357-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Simi
Matches 1993;
                                                                                                                    868
                                                                                                                                                                      361
                                                                                                                                                                                                                         838
                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                    778
                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                               718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60
                                                                             ĊŦŦĠĊŔĠĠŦĠĠĠŦŦŦĠĊŦĠŔĠŦŦĊŦĊĠĠŦŦĠŦŦŦĊĊĊŦĠĠĊĊŦĊŦĠŦĠĸĸĠĠĸĸĸĸĸĸĸ
                                                                                                                 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                     ĠŔĊīĠŕŕŤŕĊŕĊĸĊīĠŕĸĊŕŤĊīĠĠĠŗĸĸĸĊĭĠĠĸĠĸĸĠĸĠĊŗŤĊĸĸĊŢĊſĠŢŢĊĸĊŢĠ
                                                                                                                                                                                                                   GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTGTGTTCACCTG
                                                                                                                                                                                                                                                                                                recagned a recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga dela recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga de la recaga d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                    ĠĀĊĀĀĀĠŤĠŦŦĀĀŦŦĀĊĀĠĀĠĊŦĊĀŦĊĊĀĠĊĀŦŤĊĀĠĊĠĀĀĀĊĀŦĀĀĠĠŦŦĠĀĊĀŦŦĠĀŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTGGAACGGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGGCCCATGAGATGGTAGACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 1991.8;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 13; Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ٥,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                             957
                                                                                                                                420
                                                                                                                                                                                        897
                                                                                                                                                                                                                                                                                                   837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                           777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                      S
                                                                                         뮍
                                                                                                                                     δ
                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ДЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                           1441
                                                                                                                                                                                                 1918
                                                                                                                                                                                                                                                       1381
                                                                                                                                                                                                                                                                                                            1858
                                                                                                                                                                                                                                                                                                                                                                  1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1078 CAGCAGAATGGGATTGGTTATGTGTTAAATGCCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                   AGCAAGCGATTGCGTTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCCTTTTA 1500
TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACCACCAGCTTCCTTTTCGGC
                                                                                                                                                             ĠĀTĀĀĠĠĀĠĠĀĀĠĊĊĀĠĊĀŤĊĊĊĊĀĀĠĀĀĠĊŤĠĊĀĠĀĊĊĠĊĊĀĠĠĊĊŤŤĊĀĠĀĊĀĠĊĊĀĠ
                                                                                                                                                                                                 GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                           AAGCTATĠĊĊĀĠŦŤĊŤĊĊĊĊŤĠŦŤĊĀĠĠĀĀĊŤĀŤĊĠĠĀĠĊĀĠĀĊŤĊĊĊĠĀĀĀĊĊĀĠŤĊĊŤ
                                                                                                                                                                                                                                                                                                            AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT 1380
                                                                                                                                                                                                                                                                                                                                                                                    récréarcagaagargerrirggaaracracaaacerreccaeracrecgarggarggaccaae
                                                                                                                                                                                                                                                                                                                                                                                                                 TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC 1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rererissárháreháhárehárrirehrarrehsechásehárssáraterriakarsserre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC 1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          céchádeárideéchádeáridehádecidrederrhadhádahéhádecideíridárhadhádediderre 1677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAACCTGTCCCTGTGTCTCAGAGGGTGGACAGAAAAGCCGAGACGCCCCTCAGTCCACCC 1557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CÁGACTGGAGGATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGGAAGCCAAAT 1497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAAGCCAAAT 960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            átarcreckáakerrekartrireregeckakereceregakerárgagakgakgartakgake
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATATOTECAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          chadrocacrorinaderios dancereces de concestar de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ĊĊĠŦĠĠŦŦĠĠĀĊĀĀĀŦĊĀĠŦĀĠĀŦŦŦĊĀŦŦĠĀĠĀĀĀĠĊĄĀĀĀĠĊĊŦĊĊĀĀŦĠĠĀŦĠŦĠŦŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         daarrdrickaardritardringerigedagagargrickieaadaagagergarg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACTCTACTCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
1560
                                                     2037
                                                                                                                                                                                                                   1440
                                                                                                                                                                1977
                                                                                                                                                                                                                                                                           1917
                                                                                                                                                                                                                                                                                                                                                                                       1857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
```

CONSETVACAVE GGCCCATGAGATGATTG GGCCCATGAGATGATTG GGCCCATGAGATGATG GGCCCATGAGATAGATG GGCCCATGAGATAGATG GGCCCATGAGATAGATG GGCCCATGAGATAGATG GGCCCATGAGATGATG GGAACGGAAAAAGTGC GGAACGGAAAAAGTGC GGAACGGAAAAAGTGC GGAACGGAAAAGCCATTA CATTTTGGAAGCCATTA CATTTTGGAAGCCATTA	; SEQ ID NO 115 ; LENGTH: 4790 ; TYPE: DNA ; ORGANISM: Homo sapiens US-10-648-593-115 Query Match Best Local Similarity 99.8%; Score 1991.8; DB 17; Length 4790; Best Local Similarity 99.9%; Pred, No. 0;	APPLICANT: Bristol-Myers Squibb Company TITIE OF INVENTION: IDENTIFICATION OF GENES FOR PREDICTING ACTIVITY OF COMPOUNDS THAT TITLE OF INVENTION: INTERACT WITH AND/OR MODULATE PROTEIN TYROSINE KINASES AND/OR TITLE OF INVENTION: PROTEIN TYROSINE KINASE PATHWAYS IN BREAST CELLS FILE REFERENCE: D0273 NP CURRENT APPLICATION NUMBER: US/10/648,593 CURRENT FILING DATE: 2003-08-26 PRIOR APPLICATION NUMBER: 60/406,385 PRIOR APPLICATION NUMBER: 60/406,385 PRIOR FILING DATE: 2002-08-27 NUMBER OF SEQ ID NOS: 557 SOFTWARE: PARENTIN VERSION 3.2	RESULT 9 US-10-648-593-115 Sequence 115, Application US/10648593 Distriction No. US20040106132A1 GENERAL INFORMATION:	Db 2398 AAGCAGTTTAAACGCAGAAACTGCCAAATTGGAGAAGCATCATGTCAGAGAAC 2457 Oy 1921 AGGTCACGGGAAAGAGCTGGGGAAAGTGGGATCAGTTTTCGGGCAGCATGGAA 1980	OY 181	
Oy 1081 CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC 1140	Oy 961 GAACCTGTCCCTGCTGCTCAGAGGGTGGACAGAAAGCGAGACGCCCTCAGTCCACCC	Qy 781 ANGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAAA	OY 661 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCTCCAATGGATGTGTT 720	OY 541 CAGCAGAATGGGATTGGTTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT 600	CONTRACTOR CONTRACTOR	

```
RESULT 10

US-10-168-506-2

Sequence 2, Application US/10168506

Publication No. US20040053229A1

GENERAL INFORMATION:
APPLICANT: PLOWMAN, GREGORY D.
APPLICANT: MARTINEZ, RICARDO
APPLICANT: MARTINEZ, DAVID
APPLICANT: MANNING, GERARD
APPLICANT: SUDARSANAM, SUCHA
APPLICANT: HILL, RON
APPLICANT: HILL, RON
APPLICANT: HILLARD
APPLICANT: HILLARD
APPLICANT: HILLARD
APPLICANT: HILLARD
APPLICANT: HILLARD
APPLICANT: HILLARD
APPLICANT: USUARSANAM, PETER
FILE REFERENCE: 038602/1351
CURRENT FILING DATE: 2002-06-21
PRIOR APPLICATION NUMBER: PCT/US00/34736
NUMBER OF SEQ ID NOS: 76

NUMBER OF SEQ ID NOS: 76
SOFTWARB: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ДЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ДĎ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCATTGAGGTCTCC 2178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGGTCACGGGAAGAGCTGGGGAAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          aagcagritaaacgcagaagctgccaaarggaarttggaagagagagatcatgrcagagaac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGGAGCATCATGTCAGAGAAC 1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG 1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ĠĊĊŦĀĊĀĠĊŦĠĆĀĠĊĊĀĠĊŦĠĊĊĊĀĊŦŦĠĊĠĠĀĠĀĊĊĀĀĠŦĊŦĀŦŦĊŦĠŦĠĊĠĠĀĠĠĊĠĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT 1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         regararetregecececagaeereraeeeerreceraeeageagergerarrrreee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC 1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ctriccaccadccadcadcaccrcacdaadrcidctddccrdddccrraadddcrigcac 1803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC 1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCTCCACTGCATCGAAGTGGGAGGAGGAGGACAATTACCACACCAGCTTCCTTTTCGGC 1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCCTTTTA 1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a de a de de de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC 1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a A de trat de ca de tre en esta de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                . 2163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1380
                                          Ş
                                                                                         밁
                                                                                                                                 Ş
                                                                                                                                                                                   В
                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                 Вb
                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; SEQ ID NO 2
; LENGTH: 2732
; TYPE: DNA
; ORGANISM: Homo sapiens
US-10-168-506-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 1992; Conserv
                                                                                         1378
                                                                                                                                                                                1318
                                            901
                                                                                                                                   841
                                                                                                                                                                                                                                                                                                                                                                    1198
                                                                                                                                                                                                                                                                                                                                                                                                                             781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1018
                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           838 GACTGTTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTTCAACTTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGGACCTGGAGAAGAGCCAAAT
                                                         ATATCTCCAAACTTCAAITTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   538 Arddecedardadardatrodakaerekaarrherraetrakekadaderregerererekaka
                                                                                                                                                                           CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG 780
                                                                                                                                                     CGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGCAGAATGGGATTGGTTAATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGAATICTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACATTITGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGTGGAACGGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       nilarity 99.8%; Score 1990.2;
Pred. No. 0;
Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 13; Length 2732;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ω
--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Gaps
              960
                                                           1437
                                                                                                           900
                                                                                                                                                                                                  840
                                                                                                                                                                                                                                                                                                                                        1257
                                                                                                                                                                                                                                                                                                                                                                                                                             1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
```

S

S

밁

```
1978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1678
                                                                                                                                                                                                                                                   1801
                                                                                                                                                                                                                                                                                                                                                                                             1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2098
                                 ATCATTGAGGTCTCC 1995
                                                                                       AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                          AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGGAGCATCATGTCAGAGAAC
                                                                                                                                                              AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                               CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                                       GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                  ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCGGATATCTTGGCCCCCCAGACCTCTACCCCTTCCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACTGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GATAAGGAGGAAGCCAGCATCCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGTGCCGACTCTGCTACCTCAGAGGCAGGACGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAACCTGTCCCTGCTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
ATCATTGAGGTCTCC 2532
                                                                                                                                                                                                               CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGTGCCGACTCTGCTACCTCAGAGGCAGCAGCAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                     AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                     2517
                                                                                                      1980
                                                                                                                                        2457
                                                                                                                                                                            1920
                                                                                                                                                                                                               2397
                                                                                                                                                                                                                                                   1860
                                                                                                                                                                                                                                                                                                                      1800
                                                                                                                                                                                                                                                                                                                                                                                           1740
                                                                                                                                                                                                                                                                                                                                                                                                                                2217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1557
                                                                                                                                                                                                                                                                                    2337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1677
             밁
                                                S
                                                                                    밁
                                                                                                                  δ
                                                                                                                                                           밁
                                                                                                                                                                                         á
                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                   á
                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 11
US-10-094-749-673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                    356
                                                                                                                                                                                                                                                                                                       176
                                                                                                                                                                                                                                                                                                                                                                            116
                                                361
                                                                                                                     301
                                                                                                                                                           296
                                                                                                                                                                                            241
                                                                                                                                                                                                                                236
                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                              61
```

g Ś 밁 ş 밁 S 뭐

S

421

ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC

480

475

420 415 355 300 240

180

120

360

δ

S

밁

ક 밁 ঠ

밁

밁

á

밁 ঠ 밁 Ś 밁 S 밁 ঠ 밁 S 밁

```
APPLICANT: NAGAHARI, KENJI
APPLICANT: MASUHO, YASUHIKO
TITLE OF INUMENTION: NOVEL FULL-LENGTH CDNA
FILE REFERENCE: 084335/0160
CURRENT FILING DATE: 2002-03-12
CURRENT FILING DATE: 2002-03-12
PRIOR APPLICATION NUMBER: 60/350,435
PRIOR FILING DATE: 2002-01-24
PRIOR APPLICATION NUMBER: D 2001-328381
PRIOR FILING DATE: 2001-09-14
NUMBER OF SEQ ID NOS: 3381
SOFTWARE: PATCHIN Ver. 2.1
SEQ ID NO 673
LENGTH: 2102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; TYPE: DNA
; ORGANISM: Homo sapiens
US-10-094-749-673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 673, Application US/10094749
Publication No. US20030219741A1
GENERAL INFORMATION:
APPLICANT: ISCGIA, TAKAO
APPLICANT: SUGIYAMA, TOMOYASU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 99.8
Matches 1991; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HIO, YURI
OTSUKA, KAORU
NAGAI, KEIICHI
IRIE, RYOTARO
TAMECHIKA, ICHIRO
SEKI, NAOHIKO
YOSHIKAWA, TSUTOMU
                                                                                                                      GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                     GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                      AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCCGGCCATTTGTGGAATACAATACATCC
CTTGCAGGTGGGTTTGCTGAGTTCTCTCGCTTGTTTCCCCTGGCCTCTGTGAAGGAAAATCC
                      CTTGCAGGTGGGTTTGCTGAGGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                    GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                   GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUGIYAMA, TOMOYA
OTSUKI, TETSUJI
WAKAMATSU, AI
SATO, HIROYUKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OTSUKA, MOTOYUKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ISHII, SHIZUKO
YAMAMOTO, JUN-ICHI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ISONO, YUUKO
HIO, YURI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 1988.6;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
```

INCLUSION CONTROL CONT	476 ACTCTACTCCCTACCTGCATTCTCAGCCTTGCTTACCTGTTGCCAACATGGCCCAACCTACCT
RESULT 12 Sequence 520, Application US/10296115 Publication No. US20040053248A1 Publication No. US20040053248A1el Nucleic Acids and Polypeptides FILE REPERENCE: 784pcT FILE REPERENCE: 784pcT CURRENT APPLICATION NUMBER: US/10/296,115 PRIOR APPLICATION NUMBER: US/009/488,725 PRIOR FILING DATE: 2000-01-21 PRIOR FILING DATE: 2000-04-25 REGO ID NO 520 FILE REPERENCE: 784pcT PRIOR FILING DATE: 2000-04-25 REGO ID NO 520 FILE REPERENCE: 784pcT PRIOR FILING DATE: 2000-04-25 REGO ID NO 520 FILE REPERENCE: 784pcT PRIOR FILING DATE: 2000-04-25 REGO ID NO 520 FILE REPERENCE: 784pcT PRIOR FILING DATE: 2000-04-25 REGO ID NO 520 FILE REPERENCE: 784pcT PRIOR FILING DATE: 2000-04-25 REGO ID NO 520 FILE REPERENCE: 784pcT PRIOR FILING DATE: 2000-04-25 REGO ID NO 520 FILE REPERENCE: 784pcT PRIOR FILING DATE: 2000-04-25 REGO ID NO 520 FILE REPERENCE: 784pcT REGO REGO ID NO 520 FILE REPERENCE: 784pcT REGO ID NO 520 FILE REPERENCE: 784pcT REGO ID NO 520 FILE REPERENCE: 784pcT REGO REGO ID NO	Db 1556 TCTCCACTGCATCGAAGTGGGAGGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC 1615 Qy 1561 CTTTCCACCAGCCAGCAGCACCACACAAGTCTGGCCTGGGCCTTAAGGGCTGGCC 1620 1616 CTTTCCACCAGCCAGCAGCACCTCACAAGTCTGGCCTGGCCCTTAAGGGCTGGAC 1620 1621 TCGGATATCTTGGCCCCCCAGACCTCACCAAGTCTTGCCTGACCAGCACCTGGCCAGCAC 1675 Qy 1621 TCGGATATCTTGGCCCCCCCAGACCTCACCAAGTCTTACCCTGACCAGCAGCTGGTATTTTGCC 1680 1676 TCGGATATCTTGGCCCCCCAGACCTTCACCCCTTACCCAGCAGCAGCTGGTATTTTGCC 1735 Qy 1681 ACAGAGTCCTCACACTTCTACTCTCCTCACCCATCACCAGCAGCTGGTATTTTGCC 1735 Qy 1681 ACAGAGTCCTCACACTTCTACTCTCCTCAGCCATCTACCGAGGAGGAGGTGCCAGTTACTCT 1740 1736 ACAGAGTCCTCACACTTCTACTCTCCCTCAGCCATCTACGAGGAGGTGCCAGTTACTCT 1740 1736 ACAGAGTCCTCACACTTCTACTCTCCCTCAGCCATCTACGAGGAGGTGCCAGTTACTCT 1795 Qy 1741 GCCTACAGCTGCAGCCAGCTGCCACTTTGCGGAAGACCAAGTCTACTCTTGTGGGCAGGGGG 1855 Qy 1801 CAGAAGCCAAGTGACAAGTCGCCACTTGCGGAAGACCAAGTCTATTCTGTGGGCAGGGGG 1856 Qy 1801 CAGAAGCCAAGTGACAAGTCGCAACTTGCGGGAGGAGCCAAGTCTATTCTGTGGCCAGGAGGCCCCTTTGAA 1916 Qy 1861 AAGCAGTTTAAACGCAGAAGACTGACAGAGCTGGGCGAGAGCAAGAGAGAG

Ś Дb Ş 밁 Ś 밁 Ş В Ś В Ş 망 Ś Дb S В Ş В Ś Вb Ş Дb Ş 문 S 뮍 5 닭 Ş B δ 밁 Ş

중 음 중 음

중 음

1141 AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC 1200		1021 TGTGCCGACTCTGCTACGTCAGAGGCAGCAGGACAAAAGGCCCGTGCATCCCGCCAGCGTG 1080	961 GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC 1020 	901 CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGAGCCAAAT 960 	841 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC 900 	781 AAGAGGATGGACATGTCTTTAGATGAAGGCTTACAGATTTGTGAAAGAAA	721 CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCTACATCATG 780	61 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT 7	1 ATCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG	41 CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT 6	CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 5	1 ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC 1	361 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTTCCCTGGCCTCTGTGAAGGAAAATCC 420	301 GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG 360 	241 TGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCCTCTCTCT	181 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240 	
APPLICANT: Padīgaru, Muralidhara APPLICANT: Anderson, David W. APPLICANT: Anderson, David W. APPLICANT: Miller, Charles E. APPLICANT: Gerlach, Valerie APPLICANT: Taupier Jr, Raymond J.	; APPLICANT: Zerhusen, Bryan ; APPLICANT: Patturajan, Meera ; APPLICANT: Shimkets, Richard ; APPLICANT: Li, Li ; APPLICANT: Gangolli, Esha	; Publication No. US20040033493A1 ; GENERAL INFORMATION: ; APPLICANT: Tchernev, Velizar ; APPLICANT: Spytek, Kimberly	RESULT 13 US-10-072-012-257 ; Sequence 257, Application US/10072012	Db 2003 ATCATTGAGGTCTCC 2017	1921 AG	1861 AACCAGTTTAAACGCAGAACCTGCCAAATGCAATTTGGAGAGCATCATGTCAGAGAAC	1801 CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGGCCCCTTTGAA 1	QY 1741 GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG 1800	QY 1681 ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT 1740	QY 1621 TCGGAFATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC 1680	Qy 1561 CTTTCCACCAGCAGCAGCACCTCACGAAGTCTGCTGGCCTTGAGGGCTTAAGGGCTGGCAC 1620	OY 1501 TCTCCACTGCATCGAAGTGGGAGGGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC 1560	QY 1441 AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGCACCGCCCAGAGGTCCCTTTTA 1500	1381 GATAAGGAAGCAGCATCCCCAAGAAGCTGCAGACCGCAGGCCTTCAGACAGCCAG 	1321 AAGCTATGCCAGTTCTCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT	1283 TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC	1223 TC

8 8 8 8 8 8 8

음 성 음

8 8 8 8

8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8

```
Б
                                                                                                                                                                    Ş
                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                    뭐
                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                    멍
                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Gusev, Vladimir Y.
APPLICANT: Wolman, Steven D.
APPLICANT: Wolman, Steven D.
APPLICANT: Pena, Carol E. A
APPLICANT: Pena, Carol E. A
APPLICANT: Pena, Carol E. A
APPLICANT: Alsobrook II, John P.
APPLICANT: Alsobrook II, John P.
APPLICANT: Alsobrook II, John P.
APPLICANT: Burgess, Catherine E.
TITLE OF INVENTION: Proteins and Nucleic Acids Enc.
PILE REFERENCE: 21402-258
CURRENT FILING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: 60/265,102
PRIOR APPLICATION NUMBER: 60/265,102
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR FILING DATE: 2001-02-03
PRIOR FILING DATE: 2001-02-03
PRIOR PILING DATE: 2001-02-05
PRIOR APPLICATION NUMBER: 60/266,406
PRIOR FILING DATE: 2001-02-05
PRIOR APPLICATION NUMBER: 60/266,406
PRIOR FILING DATE: 2001-02-05
PRIOR APPLICATION NUMBER: 60/266,757
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; LENGTH: 2071
; TYPE: DNA
; ORGANISM: Homo sapiens
US-10-072-012-257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 98.4%;
Best Local Similarity 99.4%;
Matches 1983; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Remaining Prior Application data removed - See File Wrapper or PALM.
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 257
SEQ ID NO 257
SEQ ID NO 257
                                                                                    361
                                                                                                                               361
                                                                                                                                                                    301
                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                             CTTGCAGGTGGGTTTGCTGAGTTCTCTCGGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               _
                                                                                               GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                  rdeagreagaadgregaagreracgareaaagereeccaagargregecererereree
                                                                                                                                                                                                             GÁCAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                           GACAAAGTGTTAATTACAGAGGTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240
                                                                                                                                                                                                                                                                                                                                                      ĊĀĊĀŢŦŢĠĠĀĀĠĊĊĀŢŢĀĀŢĀŢĊĀĀĊŢĠĊŢĊĊĀĀĠĊŢŢĀŢĠĀĀĠĊĠĀĀĠĠŢŢĠĊĀĀĊĀĠ
                                                                                                                                                                                                                                                                                                                                                                             CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                      AGTGGAACGGAAAAAGTGCTGATTGATAGCCGGCCATTTGTGGAATACAATACATTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; Score 1962.2;
; Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ω
•
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                         420
                                                                                                  420
                                                                                                                                        360
                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                               Ş
                                                                                                           B
                                                                                                                                             Ş
                                                                                                                                                                                             뭐
                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                               뫄
                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                               1441
                         1492
                                                                                                         1432
                                                                                                                                                                                           1372
                                                                                                                                                                                                                                 1321
                                                                                                                                                                                                                                                                           1312
                                                                                                                                                                                                                                                                                                                    1261
                                                                                                                                                                                                                                                                                                                                                               1252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                    AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                         GATPAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                             ĠĀTĀĀĠĠĀĠĠĀĀĠĊĊĀĠĊĀŦĊĊĊĊĀĀĠĀĀĠĊŦĠĊĀĠĀĊĊĠĊĊĀĠĠĊĊŦŦĊĀĠĀĊAĠĊĊĀĠ
                                                                                                                                                                                                                                               TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC 1320
                                                                                                                                                                  AAGCTATGCCAGTTCTCCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAAACCAGTCCT
                                                                                                                                                                                        AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                    réferidéáráfréadáreagrificárafréagcéagcarégcágcafréctriacarggerfe
                                                                                                                                                                                                                                                                                                                                                             TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC 1260
                                                                                                                                                                                                                                                                                                                                                                                                                      Adroggeriscaecristecoccagacageriscaagacageriscaageriscaagericaagerirecrie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAACCTGTECCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      - CCAGCGTACCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCCGCTGGTACAGGCGCTC 1191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        rérideceaerreriacere adadeca de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la referencia de la refer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCCAGACGCCCCTCAGTCCACCC 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT 960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ararcrecaaacrecaarrricreeeccaacrecreeacrafeacaadaadaacarraagaac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCCATCGCTATCGCCTACATCATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                chadracacrerraderidedarerecederecedeciaecareariaredecracareare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ĊĊĠŦĠĠŦŦĠĠĀĊĀĀĀŦĊĀĠŦĀĠĀŦŦŦĊĀŦŦĠĀĠĀĀĀĠĊĀĀĀĀĠĊĊŦĊĊĀĀŦĠĠĀŦĠŦĠŦĠŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   arccccaagrerearricerisegrisecersisaarsacaagerririsisaaaaaarririg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ceaarretreceaaretriaretregereceaeceaecarereceaecaaecaaecreare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a CTCTAGTCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                      1500
1551
                                                                               1491
                                                                                                                        1440
                                                                                                                                                                  1431
                                                                                                                                                                                                                                                                                                                                      1311
                                                                                                                                                                                                                                                                                                                                                                                                                      1251
                                                                                                                                                                                                                                                                                                                                                                                                                                                               1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
```

```
APPLICANT: COLMAN, Steven D.
APPLICANT: Welenc, Adam R.
APPLICANT: Pena, Carol E. A
APPLICANT: Pena, Carol E. A
APPLICANT: Furtak, Katarzyna
APPLICANT: Grosse, William M.
APPLICANT: Alsebrook II, John P.
APPLICANT: Lager, Danise M.
APPLICANT: Rieger, Daniel K.
APPLICANT: Burgess, Catherine E.
APPLICANT: Burgess, Catherine and Nucleic Acids Enception of Invention: Proteins and Nucleic Acids Enception Reprication NUMBER: US/10/072,012
PRIOR APPLICATION NUMBER: 60/265,102
PRIOR APPLICATION NUMBER: 60/265,514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 14
US-10-072-012-255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ঽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                           APPLICANT: Tchernev, Velizar
APPLICANT: Spytek, Kimberly
APPLICANT: Spytek, Bryan
APPLICANT: Zerhusen, Bryan
APPLICANT: Patturajan, Meera
APPLICANT: Shimkete, Richard
APPLICANT: Li, Li
APPLICANT: Gangolli, Esha
APPLICANT: Padigaru, Muralidh
APPLICANT: Anderson, David W.
APPLICANT: Rastelli, Luca
APPLICANT: Rastelli, Luca
APPLICANT: Miller, Charles E.
APPLICANT: Taupier Jr, Raymon
APPLICANT: Gusev, Vladimir Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 255, Application No. US200 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1552
                                                                                                                                                                                                                                                                                                             Anderson, David W.
Rastelli, Luca
Miller, Charles E.
Gerlach, Valerie
Taupier Jr, Raymond :
Gusev, Vladimir Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCATTGAGGTCTCC 2046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCGGATATCTTGGCCCCCCAGACCTCTACCCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGAAGCCAAGTGACAGAGCTGACTCGCCGCGGGGGGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Patturajan, Meera
Shimkets, Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Application US/10072012
D. US20040033493A1
                                                                                                                                                                                                                                                                                                                                                                                                                          Muralidhara
                                                                                                                                                                                                                                                                                                                                   ۲,
                                                                                                                       Encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1560
         片
                                       S
                                                                                   밁
                                                                                                                     á
                                                                                                                                                            맑
                                                                                                                                                                                            δ
                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                        몂
                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           몽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-072-012-255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,395
PRIOR FILING DATE: 2001-01-31
PRIOR PELING DATE: 2001-01-01-31
PRIOR APPLICATION NUMBER: 60/266,406
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR FILING DATE: 2001-02-05
PRIOR PELING DATE: 2001-02-07
PRIOR FILING DATE: 2001-02-07
PRIOR FILING DATE: 2001-02-07
PRIOR PHILING DATE: 2001-02-07
PRIOR PHILING DATE: 2001-02-07
PRIOR PHILING DATE: 2001-02-07
PRIOR PHILING DATE: 2001-02-08
PRIOR PHILING DATE: 2001-02-08
PRIOR PHILING DATE: 2001-02-08
PRIOR FILING DATE: 2001-02-08
PRIOR FILING DATE: 2001-02-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Remaining Prior Application data removed - See File Wrapper or PALM NUMBER OF SEQ ID NOS: 1391
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 255
LENGTH: 2200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 97.7
Matches 1993; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR FILING DATE: 2001-01-31 PRIOR APPLICATION NUMBER: 60/265,412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 2001-01-31
APPLICATION NUMBER: 60/265,517
FILING DATE: 2001-01-31
                                             577
                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                     349
                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
           661
                                                                                   601
                                                                                                                       517
                                                                                                                                                            541
                                                                                                                                                                                                457
                                                                                                                                                                                                                                                                           397
                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                              289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATGGCCCATGAGATGGTTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
       GTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATA-----AG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                   GATGTCCTCAACAAGGAGCTGATGCAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGC
                                                                                                                       GATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGC
                                                                                                                                                                                  CCTGTTGCCAACATTGGGCCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGA
                                                                                                                                                                                                                                                           CCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTA
                                                                                                                                                                                                                                                                                                                                         TCTGTTCACCTGCTTGC-----
                                                                                                                                                                                                                                                                                                                                                                                          TCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                TCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTAAACGCTCAG
                                                                                                                                                              CCTGTTGCCAACATTGGGCCAACCCGAATTCTTCCCCAATCTTTATCTTGGCTGCCAGCGA
                                                                                                                                                                                                                                        CCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTA
                                                                                                                                                                                                                                                                                                                 TCTGTTCACCTGCTTGCAGGTTTATTCTTAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95.6%;
97.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 1906.8;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                     AGGTGGGTTTGCTGAGTTCTCTCGTTGTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <u>ب</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         45;
```

636

516

420 396 480 456 540

Ş 뭐 Ś 밁 Ş 밁 S

Ś 밁 Ś 뮍 Ś 뫄 Ś 片 Ś 뭐 Ś 뫄 Ś 밁 δ 밁 Ş В S 밁 5 ДЬ δ 吊 Ş В 성 함

480

_ _

```
Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 20, Application US/09964277
Patent NO. US20020137170A1
GENERAL INFORMATION:
APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
TITLE OF INVENTION: DSP-16 DUAL-SPECIFICITY PHOSPHATASE
FILE REFERENCE: 200125.434
CURRENT APPLICATION NUMBER: US/09/964,277
CURRENT APPLICATION NUMBER: US/09/964,277
RUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSEQ for Windows Version 4.0
SEO ID NO 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
ORGANISM: Homo
9-964-277-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q ID NO 20
LENGTH: 3332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ILT 15
)9-964-277-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                xy Match 82.9%; it Local Similarity 91.7%; ches 1829; Conservative
421 ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                  361
                                                                                                                                                                                                                862
                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                      802
                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                           742
                                                                                                                                                                                                                                                                                                                                                                                                                                                              181 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2041 ČŤĠĠĠĠĀĀĀĠŤĠĠĊĀĠŤĊĀĠŤĊŤĀĠĊŤŤŤŤĊĠĠĠĊĀĠĊĀŤĠĠĀĀĀŤĊĀŤŤĠĀĠĠŤĊŤĊĊ 2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                     CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                   ĠĀĊŦĠŦŦŦŦĊŦĊĀĊŦĠŦĀĊŦŦĊŦĠĠĠŦĀĀĀĊŦĠĠĀĠĀĠĀĠĠĊŦŦĊĀĀĊŦĊŦĠŦŦĊĀĊĊŦĠ
                                                                                                                                                                                                                                                                                                        TGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCCTTCTCTTCTTCA
                                                                                                                                                                                                                                                                                                                                         ĠĀĊĀĀĀĠĪĠŦŦĀĀŦŦĀĊĀĠĀĠĊŦĊĀŦĊĊĀĠĊĀŦŦĊĀĠĊĠĀĀĀĊĀŦĀĀĠĠŦŦĠĀĊĀŦŦĠĀŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGTGGĀĀČGGĀĀĀĀĀĀĠŤĠĊŤĠĊŤĀĀŤŤĠĀŤĀĠĊĊĠĠĊĊĀŤŤŤĠŤĠĠĀĀŤĀĊĀĸŤĀĊĀŤĊĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAAATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGAĀGCTĠĊĊĀĀĀTĠĠĀĀTTTĠĠĀĠĀĠĀĠĀĠĊĀTĠĀŤĠŦĊĀĠĀĠĀĀĊĀĠĠŤĊĀĊĠĠĠĀĀĠĀĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCTTTGAAAAAGCAGTTTAAACGC 1875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGAGCTGACTCGCGGGGGGGGGCTGGCATGAAGAGGCCCCCTTGGAAAAGCAGTTTAAACGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cháctráccia étráccia ada decahácica a referencia de cada de cada de cada de cada de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en esta de como en es
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGGCAGAAGCCAAGTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; Score 1653.8; 
; Pred. No. 0; 
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2; Indels 164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 3332;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                        420
                                                             926
                                                                                                                                                                                921
                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                          801
                                                                                                                                                                                                                                                                                                     861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1935
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1860
```

8 8 8 8 8 8 8

g &	₽. Q	문 &	B &	B &	g Q	B 8	op op
1981 A 2378 A	1921 A 2318 A	1861 A 2258 A	1801 C	1741 G 2138 G	1681 A	1621 T	1898 T
ATCATTGAGGTCTCC ATCATTGAGGTCTCC	AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 	AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGA	CAGAAGCCAAGTGACAGAGCTGACTCGCGGGGGAGCTGGCATGAAGAGAGCCCCTTTGAA 	GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG	ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT	TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCCTGACCAGCAGCTGGTATTTTGCC 	TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGCCTTTCCACCAGCCAG
C 1995	GCTGGGGAAAGT GCTGGGGAAAGT	CAGAAGCTGCCA	CAGAGCTGACTC	CCAGCTGCCCAC	CTTCTACTCTGC	CCCCCAGACCTC	AAGTGGGAGCGT GCAGCACCTCAC
	GGGCAGTCAGTO GGCAGTCAGTO	AATGGAATTTGG AATGGAATTTGG	GCGGCGGAGCTG GCGGCGGAGCTG	TTGCGGAGACCA TTGCGGAGACCA	CTCAGCCATCTA CTCAGCCATCTA	TACCCCTTCCCT	GGAGGACAATTA GAAGTCTGCTGG GAAGTCTGCTGC
	TAGCTTTTCGG	JAGAGAGCATCA JAGAGAGCATCA	GCATGAAGAGA 	VAGTCTATTCTG VAGTCTATTCTG	ACGGAGGCAGTG ACGGAGGCAGTG	IGACCAGCAGCT GACCAGCAGCT	ACCACACCAGCT ACCTGGGCCTTA
	TCGGGCAGCATGGAA TCGGGCAGCATGGAA	TGTCAGAGAAC	GCCCCTTTGAA GCCCCTTTGAA	TGCGCAGGCGG	CCAGTTACTCT	GGTATTTTGCC GGTATTTTGCC	TCCTTTTCGGC AGGGCTGGCAC AGGGCTGGCAC
	1980	1920 2317	1860 2257	1800 2197	1740 2137	1680	1957 1620 2017

Search completed: June 22, 2004, 03:25:18 Job time: 1198.09 secs

- This Page Blank (pspjo)

```
Regult
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Database
             Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
          1124
106.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
107.4
1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      June 21, 2004, 17:08:00 ; Search time 165.047 Seconds (without alignments) 6707.969 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            682709 seqs, 277475446 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-029-345A-108_COPY_538_2532
1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Issued_Patents_NA:*

| cgn2_6/ptodata/2/ina/5A_COMB.seq:*
| cgn2_6/ptodata/2/ina/5B_COMB.seq:*
| cgn2_6/ptodata/2/ina/6B_COMB.seq:*
| cgn2_6/ptodata/2/ina/6B_COMB.seq:*
| cgn2_6/ptodata/2/ina/PCTUS_COMB.seq:*
| cgn2_6/ptodata/2/ina/backfiles1.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          atggcccatgagatgattgg.....tggaaatcattgaggtctcc 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
          몂
                              US-09-816-494-3
US-09-816-494-1
US-09-816-494-1
US-09-916-688-3
US-09-016-434-91
US-09-557-921-1
US-09-557-921-1
US-09-016-434-1135
US-09-016-434-1135
US-09-013-655-946
US-09-013-655-946
US-09-702-705-801
US-09-713-125-801
US-09-614-124B-801
US-09-614-124B-804
US-09-614-124B-804
US-09-614-124B-804
US-09-614-124B-804
US-09-614-124B-804
US-09-614-124B-804
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 3, A
Sequence 1, A
Sequence 1, A
Sequence 1, A
Sequence 11, 3
Sequence 946,
Sequence 347,
Sequence 801,
Sequence 801,
Sequence 801,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Description
                                                                                                                                                                    Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                 Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 3,
                                            Sequence
                                                                                                      Sequence
                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                           Sequence
                                                                                                                                                                                                                                                                 3, Appli
3, Appli
3, Appli
31, Appli
91, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1
Appl
App
App
App
App
App
App
App
```

?	D Q 5	3	D	Oy 1	US- S G B S S S S S S S S S S S S S S S S S	0 0 0 0
				Query M Best Lo Matches	RESULT 1 US-09-816-494. Sequence 3, Patent INF GENERAL INF APPLICANT: TITLE OF II TITLE OF II TITLE OF II FILE REFERI CURRENT APPLI PRIOR APPLI PRIOR APPLI PRIOR FILLI PRIOR FILLI PRIOR FILLI PRIOR FILLI PRIOR FILLI PRIOR FILLI PRIOR FILLI PRIOR FILLI PRIOR FILLI PRIOR FILLI PRIOR FILLI PRIOR FILLI PRIOR FILLI PRIOR PILLI PRIOR FILLI PRIOR PILLI PRIOR	22233333333333333333333333333333333333
	301 GAC		61 AG7 61 AG7 61 AG7 121 CAC	Match Local Simi es 1993; 1 ATG 1 ATG	SULT 1 Sequence 3, Applicat Patent No. 6664089 GENERAL INFORMATION: APPLICANT: Meyers, TITLE OF INVENTION: FILE REFERENCE: 104 CURRENT FILING DATE PRIOR APPLICATION NETICATION	888888 888889 055.60 705.60 7094669 70946
	TGTTTTC	DAAAGTGT DAAAGTGT DAAAGTGT DAGTCAGA	IGGAACGG	Conserva Conserva GCCCATGA	NICation 1089 VIION: VIION: VIION: PATION: PATION: PATION NUMB 3 DATE: 11D NOS: 11D NOS: 2000 AFTE: SEQ for W	4444444 000000000000000000000000000000
	GACTGTTTTCTCACTGTACTTC	TGTTAATTACAGAG	AAAAAGTY AAAGCCATT AAGCCCATT AAGCCCATT	99.8%; 99.9%; ative AGATGATT	US/09 eel A. 92 AN 92 AN 3000PH 30001-0 001-0 1ndov	11 22222222222222222222222222222222222
	TACTTCTGGG	GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT	AGTIGGAACCGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC	Sco Pre 0; 	ή μο <u>υ</u> μος (US-09- US
, January January	GTAAACTG	TCCAGCA TCCAGCA ATCAAAG	TTGATAG	re 1991.8 d. No. 0; Mismatche TCAAATTGT	NMENTS NOVEL CULES ,494 58	109-614-124B-825 109-617-325-825 109-59-184-825 109-79-702-705-826 109-714-124B-826 109-614-124B-826 109-614-124B-826 109-616-434-1100 109-016-434-1291 109-016-434-1291 109-016-90-379-1 108-990-379-1 108-990-379-1 109-371-671B-10 109-389-681-311 109-339-338-311 109-339-338-311
	GGAGAAGA	TTCAGCGJ TTCAGCGJ CTCCCAAC	CCGGCCAT CCGGCCAT CCAAGCTTZ CAAGCTTZ CAAGCTTZ	; DB 4; B 2; TACTGAGA	DUAL SPEC	B-825 -825 -826 -826 -826 -826 -826 -826 -826 -826
70000000	AGCTTCA	AAACATAJ	TTTGTGG	; Length Indels AGGTTGGTG	SPECIFICITY	0.0000000000000000000000000000000000000
TO ACCO	TGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG	CTCATCAGCATTCAGCGAAACATAAGGTTGACATTGA	ATACAAT	:h 1998; , 0; ,GGCTCTG	OR Y	Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence
DOFFEE OF						825, App 825, App 826, App 826, App 826, App 826, App 826, App 826, App 826, App 1190, Ap 1190, Ap 1190, App 11, Appli 1
30	360	240 240 300	120 120 180 180	60 60		000001110000000000000000000000000000000

Ś

361 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC 420

	1
RESULT 2 US-09-816-494-1 ; Sequence 1, Application US/09816494 ; Patent No. 6664089 ; GENERAL INFORMATION: APPLICANT: Meyers, Rachel A. TITLE OF INVENTION: 98652 AND 21117, NOVEL DUAL SPECIFICITY FILE REPERANCE: 10449-03002 CURRENT APPLICATION NUMBER: US/09/816,494 PRICE RATION APPLICATION NUMBER: US/09/816,494 CURRENT FILING DATE: 2001-03-24 ; PATOR ENTING DATE: 2001-03-24 ; PAT	Db 1441 AGCAAGCGATTGCATTCGGTCAGAACCAGCAGAGCACCGCCCAGAGGTTCCTTTTA 1500 Qy 1501 TCTCCACTGCATCGAAGTGGGAGCGTGGAGACAATTACCACACCAGCTTCTTTTCGGC 1560 1501 TCTCCACTGCATCGAAGTGGGAGCGTTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC 1560 1501 TCTCCACTGCATCGAAGTGGGAGGAGCATTACCACACCAGCTTCCTTTTCGGC 1560 Qy 1561 CTTTCCACCAGCCAGCACACCTCACGAATTACCACACCAGCTTCCTTTTCGGC 1560 1561 CTTTCCACCAGCCACCACCACCACCACCACCACCACCAGCTTCCTTTAGGGCTTGGCAC 1620 Db 1561 CTTTCCACCAGCCACCACCACCACCACCTCTCCCTTGACCAGCCTTAAGGGCTTGGCAC 1620 Qy 1621 TCGGATATCTTTGGCCCCCCAGAACCTTCACCGTTACCGTTACCGTATTTTTCCC 1680 1681 ACAGAGTCCTCACACTTCTACTCTGCCCTCAGCCATCTACCGAGCTTGATTTTTCCC 1680 Qy 1681 ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACCGAGCTTGATTTTTCCT 1740 Db 1681 ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGAGAGCTGCAATTCTACTCT 1740 Qy 1741 GCCTACACCTGCACCACTTCTACTCTGCGGAAGCCAAGTCTATTCTTTTCTGTTCGGACAGCGGGTTACTCT 1740 1801 CAGAAGCCAAGTTGAACCTGACACTTCGCGGAAGCCAAGTCTATTCTTTTGGCACAGCGGG 1800 Qy 1801 CAGAAGCCAAGTTGAACCTGACACTTGCGGAAGCCAAGTCTATTCTGTTGCGCAAGCCGGTTACTCTTTGAA 1860 1801 CAGAAGCCAAGTTAAACGCAAGACTTACTTGCGGAAGCCAAGTCTATTCTGTGCGCAAGCCCTTTGAA 1860 1801 CAGAAGCCAAGTTAAACGCAAGACTTGCACTGCGCAAGTCTATTCTGTGCAAGAGCCCCTTTGAA 1860 1801 CAGAAGCCAAGTTAAACGCAAGACTGCCAAATGGAAATTGAAGAGAGCCCCTTTGAA 1860 1801 CAGAAGCCAAGTTAAACGCAAGACTGCCAAATGGAAATTGAAGAGACCACTCTACAGAACC 1920 1811 AAGCACATTTAAACGCAAAACCTGCCAAATGGAAATTGAAAGAAGAACCATCAATGGAAACCAGCAGCAGCAAGCTGCCAAATGGAAACTAAGAACTCAAGCAGAACCTGCCAAATGGAAATTGAAAGAAGACTCAAGTCAAGAACCTGCAAATGGAAATTGAAAGAACCAAGCAAG

Ś 4 \$ g B Ş Ъ Ş 밁 Ş В Ś Дb Ş Ъ Ş БР Ś В Ş В Ş В Ś ф δ 밁 Ş В 5 Дb Ś 망 Ş д δ 밁

961 GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCCAGTCCACCC 1020	121 CACASTTTIGGAAAGGCATAAATTCTAATTGATAGCCGGCCATTTIGGAAAGAATTACAATTCAACGG 180 122 CACASTTTIGGAAAGCCCATTAATTCAACTGCTCAAGCGTTATGAAAGCGTTAGCAACGG 180 123 CACASTTTIGGAAAGCCCATTAATTCAACTGCTCCAAGCGTTATGAAAGCGTTGCAACAG 180 124 CACASTTTIAATTACAAACTCCTCCAACTTCAAGCGTTAAAGGTTGCAACAG 768 125 CACAAAGTGTTAATTACAAACTCCTCAACAATTCAAGCGTTCAAAAAGTTGCAACAG 768 126 CACAAAGTGTTAATTACAAACTCCTAATCAAAGCTTCCAAAAAAATTTTCA 300 127 CACAGTAGAAAGTTTTACATTCTAAGATCAAAAAAAAAA
	B & B & B & B & B & B & B & B & B & B &
RESULT 3 US-09-920-668-3 ; Sequence 3, Application US/09920668 ; Patent No. 6482644 ; Patent No. 6482644 ; EARENAL INFORMATION: ; APPLICANT: Brett P. Monia ; TITLE OF INVENTION: ANTISENSE MODULATION OF DUAL SPECIFIC PHOSPHATASE 8 EXPRESSION ; FILE REFERENCE: RTS-0246 ; CURRENT APPLICATION NUMBER: US/09/920,668 ; CURRENT FILING DATE: 2001-08-01 ; NUMBER OF SEQ ID NOS: 49 ; SEQ ID NO 3 ; LENGTH: 2377 ; TYPE: DNA	1201 TCTCTGGATNTCAAATCAGTTTCATATTTCAGCCAGCATGCAGCATCCTTTACATTGGCTTC 1260 1789 TCTCTGATNTCAAATCAGTTTCATATTCAGCCAGCATGCAGCATCCTTTCACATTGGCTTC 1240 1261 TCTCTATCAGAAAGATGCTTTGGATTTCACATTGCACTACTTTCCACTACTTTGCATTGGATCTACCTTTCATTGCTTTCATTGCTTTCATTGCTTTCACATTGCTTTCACATTGCTTTCACATTGCTTTCACATTGCTTTCACATTGCTTCACATTGCTACTTTCACATTCTCCCTTTCAGAAACCTTTCCACTACTTTCAGAAACCATCCACATTCTCCACTATTCAGAAACCATCCACATTCCCCCAGAAACCAACTCCACATTCCACTATTCAGAAACCATCCACAAACCAACTCCCACAAACCAACTCCTTTCAAAACCAACCAACTCCCACAAACCAACTCCTTTCAAAACCAACCAACTCCCACAAACCAACTCCTTTCAAAACCAACCAACCAACCAACCAACTCCTTTCAAAACCAACAA

문

중 유

밁

밁

ર્

ð

유 성 유

밁

음 성 음 성

밁

밁

문

밁

ક

유 성 유

ð

sapiens

1104

1335 1219

```
В
                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 19.4
Best Local Similarity 59.5
Matches 716; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Homo : FEATURE: NAME/KEY: CDS LOCATION: (135)
                                                                                                                                                                                                                                                                                                                                      1005
                                                                                                                                                                                                                                                                                                                                                                                                                          865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          745 TCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            525 recriderrecedeción de se recridente de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               285
                                                                                                                                                                        АĢСРААСТСЛАӨСТӨСТӨСІЗСТӨӨАӨАӨАӨССЛАРТВААССТӨТСССТӨСТӨТСТСАӨАӨ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 225 GÁCAGCCCCCTTCGTGGAGTACAACAGCTGGCATGTGCTCAGCTCCGTCAACATCTGC
                                                                                                                                                                                                                                                                                                                                                          GGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGACTGGAGCATCAGGGCCAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACGCCTACAGGTTCGTGAAGGACAGGCGCCGTCCATCTCGCCCAACTTCAACTTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   165
                                                                                                                                                                                                                                                                 ĠĠĊĊĀĠĊŦĠĠŦĠĠĀĠŦĀĊĠĀĠĊĠĊĀĊĠĊŦĠĀĀĠĊŦĠĊŦĠĠĊĊĠĊĊĊŦĠĊĸĠĠĊĠĸĊĊĊĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAAGCTTACAGATTTGTGAAAGAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTG 864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     recedereráceaceareaceareacerácia en receder de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCATTGAGAAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTGGACTGTTTAGCTGGGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ctcháceccháehactectecháecctháectteactteatetachaeccectteatece
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCGGAGTCTCATTTCCTGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GÓCTCGCÁGAAGGÁCGTCCTRAACAAGGÁTCTGÁTGACGCÁAAÁTGGAATAAGCTACGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGCTGCCAGCAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTG 564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGCTTGCTTACCTGTTGCCAACATTGGGCCAACCGAAATCTTTCCCAATCTTTATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACT---CTAGTCCCTACCTGCATTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGCTGGACGGCTGCTTCGACAGCGTGGCCATCCTCACTGGGGGCCTTCGCCACCTTCTCC 524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGA GCA CGCGGGACGCCAGCGTGCTGGCCGCAGACACCTTCCTCCCATCCTGGCTGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAAAGCTCCCAAGATGTTGCCTCTCTCTTCAGACTGTTTTCTCACTGTACTTCTGGGT 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cháccgacráchacgcagocháchraghaggcrhacggagccháchagacgrachtaraire 404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGAT 267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGCTCCAAGCTTATGAAGCGAAGGTTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATC 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          récrecaadergardaadedecedergeadeadededaagerdaaccarregedadereare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GATAGCCGGCCATTTGTGGAATACAATACATCCCCACATTTTGGAAGCCATTAATATCAAC 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (135)...(2012)
                                                                               --CCCCCTCAGGACGCCGGAGCCTCCGCCCAGTCCTGCCGCCGGG 1112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 387.8; DB 4;
Pred. No. 1.7e-119;
0; Mismatches 452;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27;
                                                                                                                                                                                                                                                                           1064
                                                                                                                                                                                                                                                                                                                                                                                                                                                        1004
                                                                                                                                                                             984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               344
                                                                В
                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                US-09-016-434-91
                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                              Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 4
US-09-016-434-91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 279 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLINGS: SINGLING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Zeller, Karen J.
REGISTRATION NUMBER: 37,071
REFERENCE/DOCKET NUMBER: PA-0
TELECOMMUNICATION INFORMATION:
TELEPHONE: (650) 855-0555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 91, Appli
Patent No. 6500938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: Janice Au-Young
APPLICANT: Jeffrey J. Seilhamer
TITLE OF INVENTION: COMPOSITION FOR THE DETECTION OF SIGNALING
TITLE OF INVENTION: PATHWAY GENE EXPRESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COmpatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTMARE: Word Perfect 6.1 for Windows/MS-DOS
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 1490
CORRESPONDENCE ADDRESS:
CONTRESPONDENCE ADDRESS:
FIRET: 3174 PORTER DRIVE
CITY: PALO ALTO
STATE: CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: FILING DATE: HEREW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                      1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1221 ACGCCCCCGGCGACCAGCGCACTGCAGCAGGGCCTGCGGGCCTGCACCTCTCCTCGGAC
                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1173
a Tegececa reada a resea a cresa a a resea de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como de la como d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            94304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cGccrgchgehchcrhaccgccrchahgegericerrecrecergehchrchagrerg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (650)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Application US/09016434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAGTGGGCTGCACCTGTCCGCAGAC 1164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6срассьовае по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по применения по примен
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCCCCGCTGCCACGGCTGCCACCTACCTCAGAGAGCGCTGCCACAGGGAATGCGGCT 1172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGTGGAÇAĢAAAĢCGAĢAÇGÇÇÇÇTÇAGTСÇAСССТĢТĢСÇĢAÇТÇТĢСТĀССТÇAĢAG 1044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HEREWITH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   845-4166
                                                                                                                                                                                                11.2%; Sur
100.0%; Pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---CAGGGAGGGCGGCTGAGCGCGGGGGGGAGCCCCCCGCGCCCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US/09/016,434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       91:
                                                                                                                                                                                           Score 223; DB 4; L; Pred. No. 1.1e-64; 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PA-0002 US
                                                                                                                                                                                                                                                                               Length 279;
                                                                                                                                                                                           Indels
```

0;

Gaps

0,

```
5
RESULT 6
US-09-922-146-3
; Sequence 3, Application US/09922146
                                                                                                                                                                   밁
                                                                                                                                                                                                   5
                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                          ঠ
                                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    吊
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 5
US-09-557-921-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-557-921-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: FAB
SEQ ID NO 1
LENGTH: 1830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
TITLE OF INVENTION: DSP-10 DUAL-SPECIFICITY
FILE REFERENCE: 200125.416
CURRENT APPLICATION NUMBER: US/09/557,921
CURRENT FILLING DATE: 2000-04-20
NUMBER OF SEQ ID NOS: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches 251;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 6.2%;
Best Local Similarity 56.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 1, Application US/09557921 Patent No. 6551810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA ORGANISM: Homo sapiens
                                                                                                                                                                        1396
                                                                                                                                                                                                                                                                                                                      1276
                                                                                                                                                                                                                                                                                                                                                                                             1216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1036
                                                                                                                                                                                                                                             1336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1096 CTCAGGACCTGGACACCATGCAGCGGCTGAACATCGGCTACGTCATCAACGTCACCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         581 CCTGTCCAAAGCCTGACTTT---ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                521 TCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        461 TTGCCAACATTGGGCCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAAC 223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FastSEQ for Windows Version 4.0
                                                                                                                          ACTATGAGAAGAAGATTAAGAAC 900
                                                                                                                                                                        TTGTCAAAGGCAAACGACCAATTATCTCCCCAAACCTTAACTTCATGGGGCAGTTGCTAG
                                                                                                                                                                                               TTGTGAAAGAAAAAAGACCTACTATATCTCCAAACTTCAATTTTTCTGGGCCAACTCCTGG
                                                                                                                                                                                                                                             CCATCGTCATCGCTTACTTGATGAAGCACACTCGGATGACCATGACTGATGCTTATAAAT
                                                                                                                                                                                                                                                                              CCATCGCTATCGCCTACATCATGAAGAGGGATGGACATGTCTTTAGATGAAGCTTACAGAT
                                                                                                                                                                                                                                                                                                                      CTCACCAGTGTGGGAAGGGGCTTCTCATCCACTGCCAGGCTGGGGTGTCCCGCTCCGCCA
                                                                                                                                                                                                                                                                                                                                                         CAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                  ACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCGAGAACGCTGAGCTCACCCCCATCTTGCCCTTTCCTTTGCCAATGAGCAGGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGTGGAAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                             ACAGCAACAAGCAGAACCTGCGGCAGTACTTTGAAGAGGCTTTTGAGTTCATTGAGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAAC
                                                                                               AGTTCGAGGAAGACCTAAACAAC 1478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 124.6; DB 4;
Pred. No. 7.2e-31;
0; Mismatches 189;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1830;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ω
--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                        1455
                                                                                                                                                                                                                                               1395
                                                                                                                                                                                                                                                                                                                      1335
                                                                                                                                                                                                                                                                                                                                                                                             1275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            144
                                                                                                                                                                                                                                                                                  817
                                                                                                                                                                                                                                                                                                                                                         757
                                                                                                                                                                                                                                                                                                                                                                                                                                  697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
```

```
APPLICANT: Lex M. Cowsert
APPLICANT: Brett P. Monia
IITLE OF INVENTION: ANTISENSE MODULATION OF DU
FILE REFERENCE: RTS-0252
CURRENT APPLICATION NUMBER: US/09/922,146
CURRENT FILING DATE: 2001-08-01
NUMBER OF SEQ ID NOS: 48
SEQ ID NO 3
LENGTH: 2303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                 US-09-016-434-1135
                                                                                                                                                                                                                                                                                                                                                                                                                                        片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-922-146-3
                                                                                                                                                                                                                                                                                                                             Sequence 1135, Application US/09016434 Patent No. 6500938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 229; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Patent No. 6566133
GENERAL INFORMATION:
CITY: PALO ALTO
STATE: CALIFORNIA
COUNTRY: USA
ZIP: 94304
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Word Perfect 6.1 for Wi
                                                                                                                                                                                                                                                                                                                GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
NAME/KEY: CDS
LOCATION: (114)...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA
ORGANISM: Homo
                                                                                                                                                                         APPLICANT: Janice Au-Young
APPLICANT: Jeffrey J. Seilhamer
TITLE OF INVENTION: COMPOSITION FOR THE DETECTION OF
TITLE OF INVENTION: PATHWAY GENE EXPRESSION
NUMBER OF SEQUENCES: 1490
CORRESPONDENCE ADDRESS:
ADDRESSEE: INCYTE PHARMACEUTICALS, INC.
                                                                                                                                                                 STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                          1083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         475 CCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     592 CCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           535 CTGATACAGCAGAATGGGATTGGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAA----G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       783 AGCCTGGCCAAACTGGGCATCCGCTACATCCTCAATGTCACCCCCAACCTCCCAAACTTC
                                                                                                                                                                                                                                                                                                            INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                          AAGTCTAACATCTCCCCCAACTTCAACTTCATGGGGCAGTTGCTGGACTTTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCTGTCCAGATCCTGCCCAACCTCTATCTGGGCAGTGCCCGGGATTCCGCCAATTTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAG 885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TACCTCATGCAGAAGCTCCACCTCTCTCAACGATGCCTATGACCTGGTCAAGAGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGCGGGGTGCTCGTCCACTGCTTGGCGGGGGTCAGCCGTTCTGTCACCGTCACTGTGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTCGAGAAGAATGGTGACTTTCACTACAAGCAGATCCCCATCTCCGACCACTGGAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AACCTGTCGCGGTTCTTTCCGGAGGCCATTGAGTTCATTGATGAGGCCTTGTCCCAGAAC
                                                                                                                                                                 3174 PORTER DRIVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (1268)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 106.8; DB 4;
Pred. No. 8.7e-25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches 182;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DUAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SPECIFIC PHOSPHATASE 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                           SIGNALING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ω
--
                                                                                                                                                                                                                                                                                                                                                                                                                                            1136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EXPRESSION
```

Windows/MS-DOS

```
Sequence 946, Application US/09023655
Patent No. 6607879
GENERAL INFORMATION:
APPLICANT: Cocks, Benjamin G.
APPLICANT: Susan G. Stuart
APPLICANT: Jeffrey J. Seilhamer
TITLE OF INVENTION: COMPOSITION FOR
NUMBER OF SEQUENCES: 1508
                                                                                                                                                                                                RESULT 8
US-09-023-655-946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; CLONE: 91418933
US-09-016-434-1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                              CORRESPONDENCE ADDRESS:
ADDRESSEE: INCYTE PE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Zeller, Karen J.
REGISTRATION NUMBER: 37,071
REFERENCE/DOCKET NUMBER: PA-0
TELECHONE: (650) 855-0555
                                  STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 2109 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
FILING DATE: HEREWITH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION:
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                          1339 ATATECECTAACTTEAACTTEATGGGTEAGCTGGAGTECGAGAGGAGGACGCT 1391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                1279
                                                                                                                                                                                                                                                                                                                                                                     1219
                                                                                                                                                                                                                                                                                                                                                                                                                            1159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1099
                                                                                                                                                                                                                                                                                    841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                           721 CTAGTGCACTGTTTAGCTGGGATCTCCCCGCTCCGCCACCATCGCCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                544 CAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGC---CTGACTTT 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           979 ATCTTGCCCTTCCTCTACTTGCGCTGTGCCAAAGACTCCACCAACTTGGACGTGTTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     484 AFTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG 543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                222;
                                                                                                                                                                                                                                                               ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAT 893
                                                                                                                                                                                                                                                                                              CAGAAGCTCAATCTGTCGATGAACGATGCCTATGACATTGTCAAAAATGAAAAATCCAAC
                                                                                                                                                                                                                                                                                                                         TTGGTACATTGCTTGGCTGGCATTAGCCGCTCAGTCACTGTGACTGTGGCTTACCTTATG
                                                                                                                                                                                                                                                                                                                                                                                                         CAGITTITCCCTGÁGGCCATTTCTTTCÁTAGÁTGÁÁGCCCGGGGCAAGÁÁCTGTGGTGTC 1218
                                                                                                                                                                                                                                                                                                                                                                                                                              CCGTGGTTGGACAATCAGTAGATTTCATTGAGAAAAGCCAAAAGCCTCCAATGGATGTGTT 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCAGGAGAGTTTAAATACAAGCAAATCCCCATCTCGGATCACTGGAGCCAAAACCTGTCC 1158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GÁATTCGGCÁTCAAGTÁCATCTTGÁACGTCÁCCCCCÁATTTGCCGAÁTCTCTTTGÁGAAC
                         INCYTE PHARMACEUTICALS, INC
74 PORTER DRIVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENBANK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US/09/016,434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 96.2; DB 4;
Pred. No. 3e-21;
0; Mismatches 188;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PA-0002 US
                                                                                    FOR THE DETECTION OF BLOOD CELL GENE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 2109;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ω
~•
                                                                                                                                                                                                                                                                                                                                                      1278
                                                                                                                                                                                                                                                                                                                           840
                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1038
US-09-023-655-347
; Sequence 347, Application US/09023655
; Patent No. 6607879
; GENERAL INFORMATION:
                                                                                                             밁
                                                                                                                                     Ş
                                                                                                                                                                g,
                                                                                                                                                                                          á
                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                        뮍
                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                         1339
                                                                                                                                                               1279
                                                                                                                                  841
                                                                                                                                                                                          781
                                                                                                                                                                                                                                                                                                                                                                                                                                             979
```

Ś 뮍 Ś 밁 Ś 밁 δ 밁 5

```
; CLONE: g1.
US-09-023-655-946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 53.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 222;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: (650) 845-416
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US
FILING DATE: HEREWITH
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IMMEDIATE SOURCE:
LIBRARY: GENBA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Zeller, Karen J.
REGISTRATION NUMBER: 37,071
REFERENCE/DOCKET NUMBER: PA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Word Perfect 6.1 for Windows/MS-DOS 6.2
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: nucleic acid
STRANDEDNESS: sing
TOPOLOGY: linear
                                                                                                                                  1219 Tregracarrectregerégearrageegeréacreacreacregegerracerrare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STATE: C
                                                                                                                                                                                                                                                                                                                                    1039 GAATTCGGCATCAAGTACATCTTGAACGTCACCCCAATTTGCCGAATCTCTTTGAGAAC 1098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ENGTH:
                                                                                                                                                               721 CTAGTGCACTGTTTAGCTGGGATCTCCGCGCTCCGCCACCATCGCTACGCCTACATCATC 780
                                                                                                                                                                                                                                                                                                                                                                   544 CAGAATGGGATTGGTTAATGTGTTAAATGCCAGCTATACCTGTCCAAAGC---CTGACTTT 600
                                                                                                                                                                                                                                                                                                                                                                                                                                    484 ATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG 543
                                                                                      ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGAT
ATATCCCCTAACTTCAACTTCATGGGTCAGCTGCTGGACTTCGAGAGGACGCT 1391
                                                                 CAGAAGCTCAATCTGTCGATGAACGATGCCTATGACATTGTCAAAAATGAAAAATCCAAC
                                                                                                                                                                                                                                  CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT 720
                                                                                                                                                                                                                                                                                                   ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG 660
                                                                                                                                                                                                 CAGITTITCCCTGAGGCCAITTCTTTCATAGATGAAGCCCGGGGCAAGAACTGTGGTGTC 1218
                                                                                                                                                                                                                                                                   GCAGGAĠĀĠĪTTĀĀĀTĀĆĀĀĠĊĀĀĀTĊĊĊCĀTCTCGĠĀTCĀĊTGGAĠCCÁĀĀĀCCTGTCC 1158
                                                                                                                                                                                                                                                                                                                                                                                                     94304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g1418933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PALO ALTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2109 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENBANK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (650) 8.
(650)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HEREWITH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       845-4166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        855-0555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US/09/023,655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       946:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 96.2; DB 4;
Pred. No. 3e-21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PA-0001 US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             188;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 2109;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ω,
                                  893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                    1278
```

```
S
                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                र्
                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                    გ
                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                     US-09-702-705-801
                                                                                                                    RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-023-655-347
 Sequence 801, Application US/09702705
Patent No. 6504010
GENERAL INFORMATION:
APPLICANT: Wang, Tongtong
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Lodes, Michael A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 142;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: (650) 845-4166
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: Zeller, Karen J.
REGISTRATION NUMBER: 37,071
REFERENCE/DOCKET.NUMBER: PA-C
TELECOMMUNICATION INFORMATION:
TELEPHONE: (650) 855-0555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE: HEREWIT CLASSIFICATION: PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JUFIWARE: Word Perfect 6.1 for Windows/MS-DOS 6.2 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/npa cr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: COMPOSITION TITLE OF INVENTION: EXPRESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LIBRARY: THYRN
CLONE: 1444245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CITY: PALO ALTO
STATE: CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ENGTH:
                                                                                                                                                                       184
                                                                                                                                                                                                                                        124
                                                                                                                                                                                                                                                                       800 TAGATGAAGCTTACAGATTTGTGAAAGAAAAAAGACCTACTATATCTCCAAACTTCAATT
                                                                                                                                                                                                                                                                                                                                        740
                                                                                                                                                                                                                                                                                                                                                                                                        680 TAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTG
                                                                                                                                                                                                                                                                                                        64
                                                                                                                                                                                                                                                                                                                                                                         4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94304
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                     TCATGGGGCAGTTGCTAGAGTTCGAGGAAGACCTAAACAAC
                                                                                                                                                                                                      TTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC 900
                                                                                                                                                                                                                                        TGACTGATGCTTATAAATTTGTCAAAGGCAAACGACCAATTATCTCCCCAAACCTTAACT
                                                                                                                                                                                                                                                                                                        GGGTGTCCCGCTCCGCCACCATCGTCATCGCTTACTTGATGAAGCACACTCGGATGACCA
                                                                                                                                                                                                                                                                                                                                      GGATCTCCCCCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTT
                                                                                                                                                                                                                                                                                                                                                                       TTGAGTTCATTGAGGAAGCTCACCAGTGTGGGAAGGGGCTTCTCATCCACTGCCAGGCTG
Wang, Tongtong
Bangur, Chaitanya
Lodes, Michael A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1208 base pairs ucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B: INCYTE PHARMACEUTICALS,
3174 PORTER DRIVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      USA
                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Jeffrey J. Seilhamer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cocks, Benjamin
Susan G. Stuart
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           THYRNOT03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HEREWITH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Benjamin G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         4.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              347:
                                                                                                                                                                                                                                                                                                                                                                                                                                         0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 94.6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PA-0001
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FOR THE DETECTION OF BLOOD CELL GENE
                                                                                                                                                                                                                                                                                                                                                                                                                                                           No. 6.7e-21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 1208;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                     224
                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                        123
                                                                                                                                                                                                                                                                                                                                        799
                                                                                                                                                                                                                                        183
                                                                                                                                                                                                                                                                       859
                                                                                                                                                                                                                                                                                                                                                                                                          739
                                                                                                                                                                                                                                                                                                                                                                                                                                         0
```

```
TITLE OF INVENTION, Jane
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C14
CURRENT APPLICATION NUMBER: US/09/702,705
CURRENT FILING DATE: 2000-10-30
NUMBER OF SEQ ID NOS: 1833
SOFTWARE: FABERSFO *
SEO TROUBLE TO SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF SERVER OF 
                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 11
US-09-736-457-801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; TYPE: DNA; ORGANISM: Homo sapien US-09-702-705-801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  맑
                                                                                                                                                                                                                                                                                                                                                                           Sequence 801, Appl Patent No. 6509448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ ID NO 801
LENGTH: 1619
                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches 232;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                 APPLICANT:
                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                         APPLICANT:
                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                           APPLICANT:
CANT: Wang, Aijun OF INVENTION: CON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  437 GGACÁCTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATCAGCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     604 CCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 380 GCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAACC---ACTTTGAA 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      544 CAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATC 603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        484 ATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG 543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACTGGAGCATCAGGGCCAAAGAGC 927
                                                                                                                                                                   Fanger, Gary
Vedvick, Tom
Carter, Darrick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAACCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGCATTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTGCACTGCCAGGCGGCATCTCGCGGTCGGCCACCATCTGCCTGGCCTACCTGATGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCCTTCCCTTCTACCTCGGCAGTGCCTACCATGCTGCCGGAGAGACATGCTGGAC
                                                                                   Retter, Marc
Mannion, Jane
Fan, Liqun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCCTGTGCTGCGGAGGCTGCTAGC 760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCGCCCAACTTCAGCTTCATGGGGCAGCTGCTGCAGTTCGAGTCCCAGGTGCTGGCCACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGCGTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTA
                                                                                                                                                                                                                                                          Bangur, Chaitar
Lodes, Michael
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Vedvick,
                                                                                                                                                                                                                                                                                                                                                                                                      Application US/09736457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                Tongtong
                                                                                                                                                                                                                                                                                        Chaitanya
  COMPOSITIONS
DIAGNOSIS OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4.7%;
52.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 93.6; DB 4;
Pred. No. 1.8e-20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches 209;
  AND METHODS
LUNG CANCER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 4;
                                FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FOR THE
                                THE THERAPY AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1619;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    THERAPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ω
--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           663
```

```
APPLICANT: Fanger, Garry
APPLICANT: Vedvick, Tom
APPLICANT: Carter, Darrick
APPLICANT: Carter, Darrick
APPLICANT: Retter, Marc
APPLICANT: Retter, Marc
ITILE OF INVENTION: COMPOSITIONS AND METHODS FOR THERAPY AND
FITTE OF INVENTION: DIAGNOSIS OF LUNG CANCER
CURRENT APPLICATION NUMBER: US/09/614,124B
CURRENT FILING DATE: 2001-07-11
NUMBER OF SEQ ID NOS: 1668
SOFTWARE: FASTESEQ for Windows Version 3.0
ILENGTH: 1619
TYPE: DNA
ORGANISM: Homo sapien
US-09-614-124B-801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; FILE REFERENCE: 210121.478C15
; CURRENT APPLICATION NUMBER: US/09/736,457
; CURRENT FILING DATE: 2000-12-13
; NUMBER OF SEQ ID NOS: 1864
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 801
; LENGTH: 1619
; TYPE: DNA
; ORGANISM: Homo sapien
US-09-736-457-801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 12
US-09-614-124B-801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 801, Application US/09614124B Patent No. 6630574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Wang, Tongtong
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Lodes, Michael A.
APPLICANT: Fanger, Gary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Simi
Matches 232;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              724 GТGСАСТGТТТАGСТGGGATCTCCCGCCTCCGCCACCATCGCTATCGCCTACATCATGAAG 783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   544 CAGAATGGGATTGGTTATATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATC 603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCCTGTGCTGCGGAGGCTGCTAGC 760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACTGGAGCATCAGGGCCAAAGAGC 927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         тетесалалеттелатттеперессалетествелетателелавалавалаталаралеста
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGCATTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TČGČĆCĂĂČTŤĆAGCŤŤCAŤĠĠĠĠĊĀĠĊŤĠĊŤĠĊĀĠŤŦĊĠĂĠŦĊĊĊĀĠĠŤĠĊŤĠĠĊĊĄĊĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTTCATGGĀĀGCCATĀGĀGTĀCĀTCGĀTGCCGTGĀĀGGĀCTGCCGTGGGCGCGTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cccaagrerearitectige grander and a construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the constructio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGTTGGACAAATÇAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGACÁCTATCÁGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACÁTCAGCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCCTGĠĠCÁŤCACGGCŤCŤĠŤŤGĀÁŤĠŦĆŦCCŤCGGĀĊŤĠCĊĆĀĀÁCĆ---ĀĊŤŤŤGĀA 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATCCTTCCCTCCTACCTCGGCAGTGCCTACCATGCTGCCGGAGAGACATGCTGGAC 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG 543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 93.6; DB 4; Length 1
Pred. No. 1.8e-20;
0; Mismatches 209; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1619;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ω
,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           723
```

```
APPLICANT: Wang, Tongtong
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Lodes, Michael A.
APPLICANT: Lodes, Michael A.
APPLICANT: Lodes, Michael A.
APPLICANT: Vedvick, Tom
APPLICANT: Vedvick, Tom
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APPLICANT: Mannion
APP
                                     밁
                                                                                Ş
                                                                                                                                                                                                                                          US-09-671-325-801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 13
US-09-671-325-801
                                                                                                                           Query Match
Best Local Similarity
Matches 232; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 80
Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                              LENGTH: 1619
TYPE: DNA
ORGANISM: Homo f
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 4.7%; Score 93.6; DB 4; Best Local Similarity 52.3%; Pred. No. 1.8e-20; Matches 232; Conservative 0; Mismatches 209;
                                                                                   484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         801, Application US/09671325
o. 6667154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           737 TCCTGTGCTGCGGAGGCTGCTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 844 ТСТССАААСТТСААТТТТСТӨӨӨССААСТССТӨӨАСТАТӨАӨААӨААӨАТТААӨААССАӨ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     724 GTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           380 GCCTGGGCÁTCACGGCTCTGTTGAÁTGTCTCCTCGGACTGCCCÁÁÁACC---ÀCTTTGAA 436
ATCCTTCCCTTCCTCTACCTCGGCAGTGCCTACCATGCTGCCGGAGAGACATGCTGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         544 CAGAATGGGATTGGTTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATC 603
                                          ATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG 543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     320 ATCCTTCCCTCCTACCTCGGCAGTGCCTACCATGCTGCCGGAGAGACATGCTGGAC 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             484 ATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG 543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTGGAGCATCAGGGCCAAAGAGC 927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOGOCCAACTTCAGCTTCATGGGGCAGCTGCTGCAGTTCGAGTTCCAGGTGCTGGCCACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAGĀAACGGGTGAGGCTGGAGGĀGGĀGĠĊCTTCGAGTTĀĞGCĀGCGGCGCGGCAGCĀTTĀŤC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTTGGACAAATCAGTAGAATTCAGTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTA 723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ccceaegreteatricerecererecererecereaeaeaecaectriteaeaaaaagriticece
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   régricargahagecarhéagrachregargecergahagakergecerégegecergerg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGACÁCTATCAGTACAAGTGCATCCCAGTGGAAGÁTAACCACAAGGCCGÁCÁTCAGCTCC 496
                                                                                                                             Conservative
                                                                                                                                                                                                                                                                 sapien
                                                                                                                                                  4.7%;
                                                                                                                     ٥,
                                                                                                            Score 93.6; DB 4;
Pred. No. 1.8e-20;
0; Mismatches 209;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FOR
                                                                                                                                                                Length 1619;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               THE THERAPY AND
                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 1619;
                                                                                                         ω
••
                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
  379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                663
```

```
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 14
US-09-589-184-801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                     밁
                                                                                     δ
                                                                                                                          밁
                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ક
                                                                                                                                                                                                                                                                                                                                                        SOPTWARE: FASTSEQ for 1 SEQ ID NO 801 LENGTH: 1619 TYPE: DNA ORGANISM: Homo sapien
                                                                                                                                                                                                                                                                                                                                              US-09-589-184-801
                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                       Query Match 4.7%;
Best Local Similarity 52.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 801,
                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Carter, Darrick
APPLICANT: Retter, Marc
APPLICANT: Retter, Marc
APPLICANT: Retter, Marc
APPLICANT: Mannion, Jane
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THERAPY AND
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REPERENCE: 210121,478C8
CURRENT APPLICATION NUMBER: US/09/589,184
CURRENT FILING DATE: 2000-06-05
NUMBER OF SEQ ID NOS: 827
NUMBER OF SEQ ID NOS: 827
                      664
                                                                                                                                                                                                                     484 ATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   737
                                                                                                                          380 GCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAACC---ACTTTGAA
                                                                                                                                                            544 CAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          844 TCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              724 GTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        664 TGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTTCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             437 GGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATCAGCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          544 CAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATC
                                                                                                                                                                                                                                                                      232;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6686447
TGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAAGCCTCCAATGGATGTGTTCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fanger, Gary
Vedvick, Tom
Carter, Darrick
Retter, Marc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCTGTGCTGCGGAGGCTGCTAGC
                                                       GGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATCAGCTCC
                                                                                       CCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCG
                                                                                                                                                                                                 ATCCTTCCCTTCTACCTCGGCAGTGCCTACCATGCTGCCCGGAGAGACATGCTGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACTGGAGCATCAGGGCCAAAGAGC 927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTGCACTGCCAGGCGGCATCTCGCGGTCGGCCACCATCTGCCTGGCCTACCTGATGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGCGTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ccceaercreatricciecererecciereaareacaecitriereaaaaaaritrecce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAACC---ACTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCGCCCAACTTCAGCTTCATGGGGCAGCTGCTGCAGTTCGAGTCCCAGGTGCTGGCCACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wang, Tongtong
Bangur, Chaitanya
Lodes, Michael A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Application
                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US/09589184
                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŝ
                                                                                                                                                                                                                                                                                       Score 93.6; DB 4;
Pred. No. 1.8e-20;
                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   760
                                                                                                                                                                                                                                                                        209;
                                                                                                                                                                                                                                                                                                       Length 1619;
                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                      w
--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    436
                                                       496
                                                                                         663
                                                                                                                            436
                                                                                                                                                              603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      603
                      723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     783
                             Ś
                                                                        밁
                                                                                                        Ş
                                                                                                                                           밁
                                                                                                                                                                         Ś
                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; TYPE: DNA; ORGANISM: Homo sapiens US-09-702-705-804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 15
US-09-702-705-804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
APPLICANT: Wang, To
APPLICANT: Bangur,
APPLICANT: Lodes, M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: Fas
SEQ ID NO 804
LENGTH: 4637
                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 232; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Fan, Liqun
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C14
CURRENT APPLICATION NUMBER: US/09/702,705
CURRENT FILING DATE: 2000-10-30
NUMBER OF SEQ ID NOS: 1833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
   617
                                                                        557
                                                                                                                                             497
                                                                                                                                                                                664
                                                                                                                                                                                                                  437
                                                                                                                                                                                                                                                                                                                                                                                                 484
                                     784
                                                                                                        724
                                                                                                                                                                                                                                                     604
                                                                                                                                                                                                                                                                                        380 GCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAACC---ACTTTGAA 436
                                                                                                                                                                                                                                                                                                                          544 CAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATC
                                                                                                                                                                                                                                                                                                                                                             320 ATCCTTCCCTTCCTCTACCTCGGCAGTGCCTACCATGCTGCCCGGAGAGACATGCTGGAC 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      804, Application US/09702705
o. 6504010
                                                                                                                                                                                                                                                     CCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAG
                                                                                                                                                                                                                    GGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATCAGCTCC
                                                                                                                                                                                                                                                                                                                                                                                         ATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Vedvick, Tom
Carter, Darrick
Retter, Marc
Mannion, Jane
   AAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGCATTATC
                                     GTGCACTGCCAGGCGGCATCTCGCGGTCGGCCATCTGCCTGGCCTACCTGATGATG
                                                                                                        GTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAG
                                                                                                                                                                              TGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTTCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTGCACTGCCAGGCGGCATCTCGCGGTCGGCCATCTGCCTTGGCCTACCTGATGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGCGTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCCTGTGCTGCGGAGGCTGCTAGC 760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACTGGAGCATCAGGGCCAAAGAGC 927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCGCCCAACTTCAGCTTCATGGGGCAGCTGCTGCAGTTCGAGTCCCAGGTGCTGGCCACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGCATTATC
                                                                                                                                             TGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGCGTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Fanger, Gary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bangur, Chaitanya
Lodes, Michael A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Wang, Tongtong
                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                 4.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 93.6; DB 4;
Pred. No. 4.3e-20;
0; Mismatches 209
                                                                                                                                                                                                                                                                                                                                                                                                                                    209;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 4637;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                    u
۲
                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
```

843 676

616 783 723 496 663

Search Job tin	B & B &
Search completed: June 22, 2004, 02:56:08 Job time : 168.047 secs	844 TCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGAACAAG 903

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                               -MODEL-frame+ n2p.model -DEV=xlp
-Qs/cgn2 1/USPTO_spool_p/US10029345/runat 21062004 122814 4167/app_query.fasta_1.3278
-Qs/cgn2 1/USPTO_spool_p/US10029345/runat 21062004 122814 4167/app_query.fasta_1.3278
-DB=A Geneseq_29Jan04 -QFMT=fastan -SUFFIX=rag -MINMATCH=0.1 -LOOPCL=0
-LOOPEXT=0 -UNITS=bits -START=1 -END=-1 -MAYRIX=blosum62 -TRANS=human40.cdi
-LIST=45 -DOCALIGN=200 -THR SCORE=pct -THR MAX=100 -THR MIN=0 -ALIGN=15
-MODE=LOCAL -OUTFMT=pc0 -NORM=ext -HRAPSIZES=500 -MINLEN=0 -MAXLEN=2000000000
-USER-US10029345 @GGN 1 1 128 @runat 21062004 122814 4167 -NCPU=6 -ICPU=3
-NO MMAD -LARGEQUERY -NEG SCORES=0 -WAIT -DSSPBLOCK=100 -LONGLOG
-DEV TIMEOUT=120 -WARN TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPOP=6
-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Minimum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OM nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                       Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Command line parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Total number of hits satisfying
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                        Pred. No. score grea and is der
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB DB
                                                                                                                                                                  Score
   seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ı
                                                                                                                                                                                                                          No. is the number of results predicted by chance to have a greater than or equal to the score of the result being printed, a derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein search,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                           A_Geneseq_29Jan04:*
1: geneseqp1990s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2001s:*
6: geneseqp2003as:*
7: geneseqp2003as:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Xgapop 10.0
Ygapop 10.0
Fgapop 6.0
Delop 6.0
                                                                                                                                                               March
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-029-345A-108_COPY_538_2532
3615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BLOSUM62
                                                                                                                                                                                                                                                                                                     8 7 6 5 4 3 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       June 21,
                                                                                                                                 94.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1586107 seqs,
   944.22
94.22
94.22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              atggcccatgagatgattgg.....tggaaatcattgaggtctcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GenCore version
Copyright (c) 1993 - 2004
                                                                                                                                                                                                                                                                                                    geneseqp2004s:*
                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2004, 12:28:21 ; Search time 95.5895 Seconds
(without alignments)
11793.817 Million cell upd
   . . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 using
                                                                                                                                                                  뮺
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Xgapext
Ygapext
Fgapext
Delext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          282547505 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           chosen parameters:
                                           ABR52381
ABR52407
AAE04834
AAU09016
AAU79156
AAU09946
AAU75789
               ABB97946
AAU79929
   ABB97291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 frame_plus_n2p model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        . . . . . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5.1.6
Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3172214
Abr52381 Protein r
Abr52407 Protein r
Aae04834 Human SGP
Aau09016 Human dua
Aau09916 Human dua
Aau09946 Protein s
Aau75789 Human pro
Abb97946 Human pro
Aau75929 Human dua
Abb97291 Novel hum
                                                                                                                                                                  Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cell updates/sec
```

```
3399
3398
3396
3379.5
3368.5
3057.5
                                                 716
654.5
654.5
476
471.5
471.5
                                                                             1302
1297
977.5
742.5
741
465.5
465.5
465.5
455
455
                                                                                                   1542
1326
1326
1326
                          444
600
600
600
600
BBR523424
AAM257344
ABR52385
AAU79159
AAU79159
ABR52382
ABR52350
ABR52351
ABR52351
AABR52351
AABR52351
AABR52351
AABR52351
AABR52351
ABR52361
ABR52361
ABR53251
ABR53251
ABR53251
ABR53251
ABR53251
ABR53251
ABR53251
ABR53251
ABR53251
ABR53251
ABR53251
ABR53251
ABR523615
ABR523615
ABR523615
                                                                                                                                        AAU79161
AAU79162
ABR52352
AAB20325
ADD48300
ADE62625
AAB76875
AAU85530
ABU69502
                      ABJ05600
ABP57087
                                                                                                                                                          ADA54744
                                                                                 Aaw29150
Ade08458
Abg07902
Aau85530
Abu69502
                      Abj 05600
Abp 57087
                                                                                               Abg73440
Abr52351
                                                                                                        Abr52382
Abr52350
                                                                                                                 Aau79159
Abr52425
                                                                                                                                                 Aau79161
Aau79162
                                                               Aae06780
                                                                                                                               Aam25744
                                              Aao20515
                                                      Abr52383
                                                           Aab73225
                                                                    Aab66436
                                                                         Abr52405
                                                                              Abr52404
                                                                                                                           Abr52385
                                                                                                                                             Abr52352
         Aab76875
                                     Aab29641
                                         Aab18655
                                                  Abp96803
                                                                                              Human dua
Protein r
Protein r
Protein r
Human dua
Protein r
                                                                                                                                   Protein r
Human pro
Protein r
             Rat Prote
                               Human dua
Protein r
                                         Peptide r
Peptide r
Human dua
Human pho
Protein r
Human COP
Protein o
A human r
                                                                                 Dual-spec
Novel pro
Novel hum
                                                                                                                           Human pro
Protein r
                                                                                                                                                 Human
Human
Human lun
STY8 lung
Humna STY
                                                                                                                                                 dua
```

ALIGNMENTS

20-DEC-2000; 2000US-0256868P.
30-MAR-2001; 2001US-0280186F.
01-MAY-2001; 2001US-0287735P.
05-JUN-2001; 2001US-0295848P.
25-JUN-2001; 2001US-0300465P. antiproliferative; hepatotropic; nephrotropic; antiarthritic; antiproliferative; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart defect; congestive heart failure; cancer; human; mouse; yeast; rat; fruitfly. 20-DEC-2001; 2001WO-US050459. 25-JUL-2002 Homo sapiens. Protein relating to the invention SEQ ID NO: 19-JUN-2003 ABR52381; ABR52381 standard; WO200257460-A2 (BRIM) BRISTOL-MYERS (first entry) protein; SQUIBB CO B 109.

Jackson Siemers

z g

Feder J, Nelson T, Bol D, Schieven G,

Mintier G, Ramanathan C, Lee L; Finger J, Todderud CG, Bassolino

Ö

Krystek

Ś

Mcatee P,

Suchard

ß

Ď,

660

280 840 260 780 240 720

```
US-10-029-345A-108_COPY_538_2532 (1-1995) x ABR52381 (1-665)
                                                                                                                                                                                                                                                                                                                                     Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to a novel isolated nucleic acid comprising a polynucleotide having a nucleotide sequence selected from 40 comprising a polynucleotide fully defined in the specification. The polynucleotide of the invention has antiproliferative, hepatotropic, nephrotropic, contiarthritic, antipsoriatic, cardiant, and cytostatic activity. The compression of the invention is useful for preventing, treating or compression of the invention is useful for preventing, treating or complete the condition, e.g. a proliferative disorder. They are consistent for treating e.g. liver disease, renal failure, immunological concilion or susceptial heart defects and congestive heart failure, and condition or susceptibility to a condition in a subject. The present condition or susceptibility to a condition in a subject. The present condition or susceptibility to a condition of the invention of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 665
                 161
                               481
                                                141
                                                                421
                                                                                 121
                                                                                                361
                                                                                                                 101
                                                                                                                                 301
                                                                                                                                                                 241
                                                                                                                                                  81
                                                                                                                                                                                                  181
                                                                                                                                                                                  61
                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                  41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  el polynucleotides encoding prevention or treatment of
                                                                                                                                                                                                                                                    21
                                                                                                                                                                                                                                                                   19
     5; Fig 12; 801pp;
                                                                                                       AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                GACTGITTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                      ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                 2.85e-288
3418.00
100.00%
100.00%
94.55%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           human phosphatase polypeptides useful e.g. proliferative and cardiovascular
                                                                                                                                                                                                                                                                                                                              Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Banas
      180
                                      160
                                                      480
                                                                       140
                                                                                                       120
                                                                                                                        360
                                                                                                                                        100
                                                                                                                                                       300
                                                                                                                                                                         80
                                                                                                                                                                                        240
                                                                                                                                                                                                        60
                                                                                                                                                                                                                                         40
                                                                                                                                                                                                                                                                         20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    in
                      Š
                                           맑
                                                         δ
                                                                           뭐
                                                                                       8
                                                                                                           DЪ
                                                                                                                        Ş
                                                                                                                                         밁
                                                                                                                                                        Ş
                                                                                                                                                                         밁
                                                                                                                                                                                         δ
                                                                                                                                                                                                              밁
                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                             뮍
                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                              뭐
                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뮍
                         1561
                                                                                           1441
                                                          1501
                                         501
                                                                                                                                                            1321
                                                                           481
                                                                                                                                                                                                                            1201
                                                                                                           461
                                                                                                                                                                                                                                                             1141
                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                              1021
                                                                                                                                                                                                            401
                                                                                                                                                                                                                                             381
                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                              341
                                                                                                                                                                                                                                                                                                                                              321
                                                                                                                                                                                                                                                                                                                                                              961
                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                                                                                                                                                                               281
                                                                                                                                                                                                                                                                                                                                                                                                                              841
                                                                                                                                                                                                                                                                                                                                                                                                                                                261
                                                                                                                                                                                                                                                                                                                                                                                                                                                               781
221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                201
                               AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCCTTTTA
                                                                                                 GATAAGGAAGGAAGCCAGCATCCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCGAG 1440
                                                                                                                                 AAGCTATGCCAGTTCTCCCCCTGTTCAGGAACTATCGGAGACTAGCCAGACTCCT
                                                                                                                                                                           TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                 SerSerSerdluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn
                                                                                                                                                                                                  SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                           AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                   ProSerValProSerValGinProSerLeuLeuGiuAspSerProLeuValGinAlaLeu
                                                                                                                                                                                                                                                                             CCCAGCGTGCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                   CAGACTGGAGGATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                    CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCGTGGTTGGACAAATCAGTAGAATTCAGTGAAAGGAAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                 isservalArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu
                1620
                                                                                  1500
                                                                                                  480
                                                                 500
                                                                                                                                   460
                                                                                                                                                                   440
                                                                                                                                                                                   1320
                                                                                                                                                                                                                   1260
                                                                                                                                                                                                                                    400
                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                    1140
                                                                                                                                                                                                                                                    1200
                                                                                                                                                                                                                                                                    380
                                                                                                                                                                                                                                                                                                                     1080
                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                    1020
                                                                                                                                                                                                                                                                                                                                    340
                                                                                                                                                                                                                                                                                                                                                                     320
                                                                                                                                                                                                                                                                                                                                                                                     960
                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                     900
```

Ş 밁 Ş ДЪ Ś 밁 Ş 밁 δ 뮹 S B Ş 밁 Ş 밁 Ś

```
RESULT 2
ABR52407
IID ABR52407
IID ABR52407
IID ABR52407
ARS ABR52XX
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Prot
XX
ARS Pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       & B 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ঠ 🔓 ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                     Siemers
Krystek
                                             Novel polynucleotides the prevention or treadisorders.
                                                                                                                                                                                                                                         20-DEC-2000; 2000US-0256868P.
30-MAR-2001; 2001US-0280186P.
01-MAY-2001; 2001US-0287735P.
05-JUN-2001; 2001US-0295848P.
25-JUN-2001; 2001US-0300465P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       antiproliferative; hepatotropic; nephrotropic; antiarthritic; antiproliferative; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart defect; congestive heart failure; cancer; human; mouse; yeast; rat; fruitfly.
                                                                                                       WPI; 2002-599721/64.
N-PSDB; ACC60572.
                  Disclosure;
                                                                                                                                                                                                                                                                                                                                    20-DEC-2001; 2001WO-US050459
                                                                                                                                                                                                                                                                                                                                                                                                WO200257460-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Protein relating to the invention SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABR52407
                                                                                                                                                                                                                (BRIM)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1861
                                                                                                                                                                                                                                                                                                                                                                                                                              Bapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               641
                                                                                                                                                   s, g
                                                                                                                                                                                                                BRISTOL-MYERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                   Feder J, Nelson T
Bol D, Schieven G,
Mcatee P, Suchard
                 Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                             ides encoding treatment of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein;
                 1,dd108
                                                                                                                                                   Nelson T, Mintier G, Ramanathan C, Lee L_i; hieven G, Finger J, Todderud CG, Bassolino Suchard S, Banas D;
                                                                                                                                                                                                                SQUIBB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           665
                                                                                                                                                                                                               8
                                                           human
e.g. p
                                                           n phosphatase polypeptides useful proliferative and cardiovascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   148.
                                                                                                                                                                   Ď,
                                                                            ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      560
                 S
                                               밁
                                                                      5
                                                                                                         밁
                                                                                                                             Ş
                                                                                                                                                                   밁
                                                                                                                                                                                          S
                                                                                                                                                                                                                           문
                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ពន្ធន្តន្តន្តន្តន្តន្តន្តន្តន្តន្ត្
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-029-345A-108_COPY_538_2532 (1-1995) x ABR52407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates to a novel isolated nucleic acid comprising a polynucleotide having a nucleotide sequence selected from 40 polynucleotides fully defined in the specification. The polynucleotide of the invention has antiproliferative, hepatotropic, nephrotropic, antiarthritic, antipsoriatic, cardiant, and cyrostatic activity. The polynucleotide may have a use in gene therapy. A polynucleotide or polypeptide of the invention is useful for preventing, treating or ameliorating a medical condition, e.g. a proliferative disorder. They are also useful for treating e.g. liver disease, renal failure, immunological disorders including arthritis and psoriasis, cardiovascular disorders such as congenital heart defects and congestive heart failure, and condition or susceptibility to a condition in a subject. The present sequence is used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             No.
                  661
                                                                            601
                                                                                                          181
                                                                                                                                     541
                                                                                                                                                                   161
                                                                                                                                                                                                481
                                                                                                                                                                                                                             141
                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                  101
                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                              81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ۲
                                                                                                                                                                                                                                                                                                                                                                                                         CCGTGGTTGGACAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                               ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                       GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                              AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2.85e-288
3418.00
100.00%
100.00%
94.55%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                000066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (1-665)
                                                220
                                                                              660
                                                                                                            200
                                                                                                                                        600
                                                                                                                                                                      180
                                                                                                                                                                                                                                160
                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                            140
                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                 100
                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20
```

```
GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG 1800
                                                                     ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGGCAGTGCCAGTTACTCT 1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                      TCGGATATCTTGGCCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                      221
                                                                                                                                                                                                                            CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                          TCTCCACTGCATCGAAGTGGGAGGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                        SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                        AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGGCCAAGAGGTCCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                      GATAAGGAGGAAGCCAGCATCCCCCAAGAAGCTGCAGACCGCCAAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                    TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerLeuAspileLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SergiyieuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CysalaaspseralarhrserGlualaalaGlyGlnargProvalHisbroalaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGTGCCGACTCTGCTACCTCAGAGGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCTCAGTCCACCC 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GlnThrdlyAlaSerdlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrdluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                      600
                                                                                                                                          560
                                                                                                                                                                        1680
                                                                                                                                                                                                        540
                                                                                                                                                                                                                                        1620
                                                                                                                                                                                                                                                                                                        1560
                                                                                                                                                                                                                                                                                                                                                                        1500
                                                                                                                                                                                                                                                                                                                                                                                                                                        1440
                                                                                                                                                                                                                                                                        520
                                                                                                                                                                                                                                                                                                                                        500
                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
RESULT 3
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AABOMASA
AAB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뮰
                                                                                                               WPI; 200
N-PSDB;
                                                                                                                                                                                                                 (SUGE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAE04834
            7; Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          621
                                                                                                                                                                                                               SUGEN
            2;
```

& 유

1021

321 961 301 901

341

Ş Дb Ş Дb Ş 40 Ś 뫄 Ś 뮍

> 281 841 261 781

δ 밁 Ś ₽ Ş 밁 δ 뫄 5 Д Ś 밁 Ś В Ś 밁 Ş DЪ Ś 밁 Ś 밁 5 Д

581

1681

1621

1561

521

1501

501

1441

461

481

1381

441

1321

421

1261

1201

401

1141

361

```
Novel phosphatase polypeptide useful for treating candiseases and disorders, cardiovascular disease, brain associated diseases and metabolic disorders.
                                                                                                                                                                                                                                 21-DEC-1999;
28-DEC-1999;
25-JAN-2000;
31-JAN-2000;
                                                                                                                                                                                                                                                                                                               21-DEC-2000; 2000WO-US034736.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human; SGP002 phosphatase polypeptide; phosphatase-related disease; immune-related disorder; ocular disease; organ transplant rejection; infection; diabetes; pain; sexual dysfunction; Alzheimer's disease; metabolic disorder; haematopoietic cancer; mood disorder; cardiant; cardiovascular disease; multiple sclerosis; amyotrophic lateral sclerosis; attention disorder; cognition disorder; psychotic disease; dyskinesia; neurological disorder; cytostatic; neuroprotective; antibacterial; virucide; nootropic; cerebroprotective; therapy; hypotensive; immunosuppressive; antipsoriatic; analigesic; hypotensive; antisticular specificity phosphatase; DSP; MAP kinase phosphatase; MKP; migraine; chromosome 12p11.1-p12.1.
                                                                                                                                                                                                                                                                                                                                                                                    WO200146394-A2
                                                                                                   2001-418058/44.
DB; AAD09492.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sapiens
                                                                                                                                   ı GD, ru.
J. Flanagan !
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SGP002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Martinez
anagan P;
                                                                                                                                                                                                                                  99US-0173255P.
99US-0175766P.
2000US-0178078P.
2000US-0179301P.
                                                                                                                                                                                                    INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      phosphatase polypeptide
186pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first
                                                                                                                                                                                                                                                                                                                                                                                                              1. .173
/label= Catalytic_domain
158. .297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein;
                                                                                                                                                            70
                                                                                                                                                                                                                                                                                                                                                                                                         Phosphatase_domain
                                                                                                                                                               Whyte
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           665
                                                                                                                                                               'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ₽
                                                                                                                                                          Manning
                                                                                                                                                    <u>،</u>
                                                                                                                                                        Sudarsanam
                                                        cancers,
                                          or,
                                          neuronal-
                                                      immune-related
                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                620
```

Alignment Pred. No.: Score: 밁 음 성 밁 S ð 밁 ર્ 밁 ð В S S 밁 ક ş Query Match: DB: Percent Similarity: Best Local Similarity: ঠ 밁 S 밁 밁 US-10-029-345A-108_COPY_538_2532 (1-1995) x AAE04834 (1-665) CC The present invention relates to phosphatase polypeptides, nucleotide CC sequences encoding them, as well as various products and methods useful CC for the diagnosis and treatment of various phosphatase-related diseases CC and conditions. Substance that modulates the activity of phosphatase CC polypeptide is used to treat immune-related diseases and disorders, cardiovascular disease, brain or neuronal-associated diseases and CC metabolic disorders, including cancers of tissues, cancers of CC hammatopoietic origin, diseases of central and peripheral nervous system, CC harmatopoietic origin, diseases of central and peripheral nervous system, CC harmatopoietic origin, diseases of central and peripheral nervous system, CC harmatopoietic, parkinson's disease, multiple sclerosis, amyotrophic CC lateral sclerosis, vital infections, infections caused by prions, CC dystunction, mood disorders diseases, diabetes, migraines, pain, sexual CC dysfunction, mood disorders, attention disorders, cognition disorders, CC dyskinesias and organ transplant rejection. The present amino acid CC sequence is human SGP002 phosphatase (DSP) and MAP kinase CC classified as dual specificity phosphatase (DSP) and MAP kinase CC phosphatase (MKP). SGP002 gene maps to chromosomal position 12p11.1-p12.1 No.: 421 121 361 101 301 201 601 181 161 481 141 241 181 121 81 61 41 21 61 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG CGAATTCTTCCCAATCTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAAATCC GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuMet ₽ K 3.16e-287 3406.00 99.85% 99.70% 94.22% Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps: 0 0 0 0 660 540 480 100 300 60 180 120 200 600 180 160 420 360 80 240 40 밁 S 밁 S 멍 δ 밁 5 멍 δ Вþ 5 밁 Ś 日 S 日 Ş 밁 S 밁 ð 밁 S 밁 S 밁 Ş 밁 \$ 밁 Ś 밁 8 밁 S 1441 1381 1321 1141 1261 1201 1081 1021 1561 1501 521 501 481 461 441 421 401 381 361 341 321 301 961 901 281 841 261 241 221 661 781 CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT 1740 CTTTCCACCAGCAGCAGCACCTCACGAAGTCTGCCTGGCCTGGGCCTTAAGGGCTGGCAC TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC CCCAGCGTGCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal TGTGCCGACTCTGCTACCTCAGAGGCAGGAGGACAAAGGCCCGTGCATCCCCGCCAGCGTG ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCCAATGGATGTGTT SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis 1680 1620 1560 1440 1320 1260 1020 580 560 540 520 500 1500 480 460 1380 440 420 400 1200 380 360 1080 340 320 960 300 900 280

```
RESULT 4
AAUO9016
ID AAUO9016
XX AAUO
XX AAUO
XX IS Homa
XX Huma
XX Huma
XX Huma
XX Homa
XX Is Homo
XX Is Homo
XX Is Homo
XX Is Homo
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
XX Homa
X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      음 성 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      중 음 중
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   유 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뭐
                                                                                                                      New human du
The invention relates to two novel human dual specificity designated 21117 and 38692, the nucleic acids encoding the fragments, allelic variants, their complements or nucleic hybridise to them) and antibodies raised against the prote
                                                                                                                                                                 WPI; 2001-611635/70.
N-PSDB; AAS14639.
                                                                                                                                                                                                                                                                      24-MAR-2000; 2000US-0191858P.
                                                                                                                                                                                                                                                                                                       23-MAR-2001;
                                                                                                                                                                                                                                             (MILL-) MILLENNIUM
                                                                                                                                                                                                                                                                                                                                                                                                                    Active-site
                                                                                                                                                                                                                                                                                                                                                                     WO200173059-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cellular proliferative; differentiative disorder; leukac
acute myeloid leukaemia; carcinoma; sarcoma; metastatic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human; dual specificity phosphatase 21117; hepatotropic; cytostatic; hematopoietic disorder; autoimmune disorder; diabetes mellitus; rheumatoid arthritis; multiple sclerosis; Crohn's disease; liver disorder; erythroid associated disorder; haemolytic anaemia; cellular proliferative; differentiative disorder; leukaemia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAU09016
                                                                                         9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             621
                                                                                      Fig
                                                                                                                      dual
e and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IleIleGluValSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LysdinPheLysArgArgSerCysGlnMetGluPhedlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlnLyaProSerAspArgAiaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                 1; 143pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    specificity phosphatase 21117.
                                                                                                                                                                                                                                                                                                      2001WO-US009477
                                                                                                          specificity polypeptides and nucleic treatment of e.g. liver disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first
                                                                                                                                                                                                                                                                                                                                                                                                /label=
158. .29
/label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                        PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                             .297
                                                                                    English.
                                                                                                                                                                                                                                                                                                                                                                             Tyrosine_specific_protein_phosphatase_active_site
                                                                                                                                                                                                                                                                                                                                                                                                        Catalytic domain "Dual spec\overline{\mathbf{I}}ficity phosphatase catalytic domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rhodanese-like domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ā
                                                                                                                         acids
              acids
                        phosphatases
em (including
                                                                                                                         for
                                                                                                                    diagnosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                600
                               δ
                                                                멍
                                                                                           Ş
                                                                                                                            B
                                                                                                                                                   5
                                                                                                                                                                                        밁
                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                뫄
                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                       ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alignment :
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ភិទិនិនិនិនិនិនិនិនិនិនិនិនិនិនីឌី
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                 601
                                                                181
                                                                                                                            161
                                                                                                                                                        481
                                                                                                                                                                                        141
                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                101
                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                            81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       μ
```

```
US-10-029-345A-108_COPY_538_2532 (1-1995) x AAU09016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CC antibody is useful for detecting the presence of the polypeptide, and the cnucleic acid fragments are useful for detecting the presence of the curucleic acid, for diagnosing disease. Agents (e.g. the antibody and contisense sequences) are useful for modulating the activity or expression of the polypeptide/nucleic acid, useful for the treatment of e.g. contemposetic disorders, autoimmune disorders (e.g. diabetes mellitus, contemposetic disorders, autoimmune disorders (e.g. diabetes and many others contemposetic disorders, multiple sclerosis, Crohn's disease and many others contisted in the specification) liver disorders, erythroid associated contemposetic (e.g. haemolytic anaemia) cellular proliferative or contemposetic contemposetic disorders, leukaemias (e.g. acute myeloid leukaemia), contemposetic disorders, sarcomas, metastatic cancers. Agents modulating 21117 and contemposetic and useful for modulating the proliferation, survival, contemposetic acids are useful for identifying modulating contemposetic agents. The present sequence represents the dual specificity phosphatase or 21117.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IleProcluserHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                   ArgileLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuMet
                                                                                                                                                                                                      CGAATICTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                            CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CysserGlnnysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HisileLeuGluAlaileAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGTGGAACGGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ΑA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3.16e-287
3406.00
99.85%
99.70%
94.22%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    665
1
1
0
                                                                  200
                                                                                                                                       180
                                                                                                                                                                       540
                                                                                                                                                                                                        160
                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                . 300
                                                                                                                                                                                                                                                                         140
                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20
```

δ

```
1681
                                                                                                                                                                                                             1561
                                                                                                                                                                                                                                                                                    1501
                                                                                                                                                                                                                                                                                                                                                        1441
                                                                                                                                                                                                                                                                                                                                                                                                                             1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1021
                                                                                                                                         1621
                                                                                                                                                                            521
                                                                                                                                                                                                                                                  501
                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                           461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 321
                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                            GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGCTATGCCAGTTCTCCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                             SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                            TCGGATATCTTGGCCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                          LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGl
                                                                                                                                                                                                  CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                                       TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                     SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                          AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                         AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SerSerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CysalaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GinThrGlyAlaSerGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .yProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn
                                                                                                                                                                          1740
                                                                                                                                                                                                                                                                                    1560
                                                                                                                                                                                                                                                                                                                                                                                                                             1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1020
                                   580
                                                                                                         560
                                                                                                                                         1680
                                                                                                                                                                            540
                                                                                                                                                                                                                                                  520
                                                                                                                                                                                                                                                                                                                       500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                               1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
```

ઇ 문 S 밁 δ

ঠ 밁 음 성

8 B ર્ 밁 ঠ 닭 δ 밁

밁

5 & 5

ঠ 밁 5 밁

The present invention relates to a new polypeptide, DSP-16, having a 665 amino acid sequence, given in the specification, or a variant having at least 50 % identical residues, which retains the ability to dephosphorylate an activated mitogen-activated protein (WAP) kinase. The invention can be used for identifying agents which modulate DSP-16 activity, for modulation of a proliferative response in a cell, survival of a cell, or differentiation of a cell. The cell displays contact inhibition of cell growth or anchorage independent growth and may display altered intercellular adhesion. The agent may modulate apoptosis, or the cell cycle. The identified modulators can be used to treat Duchenne

Claim 1; Fig 2; 87pp;

English

밁

음 중

음 성

밁 ર્ફ 밁 Ś 밁

```
RRSULT
AND STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREET STREE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                              New DSP-16 polypeptide, useful for identifying modulators activity, which can be used in the treatment of disorders Duchenne muscular dystrophy, or cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; dual-specificity phosphatase-3; DSP-16; autoimmune disease; mitogen-activated protein kinase; MAP; Duchenne muscular dystrophy; cancer; graft-versus-host disease; allergy; metabolic disease; abnormal cell growth; abnormal cell proliferation; contact inhibition; cell cycle abnormality; anchorage independent cell growth; apoptosis; intercellular adhesion; DSP-16 modulator; chromosome 12p.
                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Luche RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            26-SEP-2000; 2000US-0235487P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25-SEP-2001; 2001WO-US030124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            04-APR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200226997-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              02-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAU79156;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAU79156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (CEPT-) CEPTYR INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ຫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1861
                                                                                                                                                                                                                                                                                                                                                                                                                                             2002-315802/35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              dual-specificity phosphatase-3 (DSP-16) protein.
                                                                                                                                                                                                                                                                                                                                                                                                                      ABK47596.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGACCCCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IleIleGluValSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers 242. .251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein; 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Active_site_domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                             of its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          600
```

3 8 8 8 8 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	cc muscula cc disease cc disease cc sequenc cc sequenc cc protein cc gene lo cc gene lo cc gene lo core: ercent Simil ercent Local Si uery Match: B: c10-029-345 61 7 1 121
26 26 26 26 26 26 26 26 26 26 26 26 26 2	40 40 40 40 40 40 40 40 40 40 40 40 40 4
1261 TCCTCATCAAAAATTCCTTTGGAATACTTCAAAACCTTCAATACTCTTGATACTGGATCGGAACCAACC	

\$\frac{1}{2}\$ \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qqquad \qqqq \qqq \qqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqq \qqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqq \qqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqq \qqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqq \qqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqq \qqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqq \qqqq

```
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    용
Percent Similarity:
                                                                                                                    The present invention relates to a new isolated dual specificity

phosphatase (DUSP10) polypeptide, comprising a 665 residue amino acid

gequence that is fully defined in the specification. The invention also

provides a sequence encoded by a 3059 nuclectide sequence fully defined

in the specification, and a sequence having at least 95 % identity to the

polypeptide, or fragments or variants of DUSP-10. The invention is useful

for treating cancer e.g. leukaemia, colon carcinoma, lung cancer,

prostate cancer, metastasis of tumour cells, neo-angiogenesis, epilepsy,

gtroke, neuronal degeneration syndromes, Alzheimer's disease, depression,

schizophrenia, cardiac myotrophies, asthma, immune disorders,

inflammatory processes e.g. arthritis, bowel disease, type I diabetes,

osteoporosis, diabetes and diabetes associated diseases. The molecules of

the invention are also useful as vaccines for inducing immunological

response in a mammal, in disease diagnosis and in assays for screening

agonistic or antagonistic compounds. Other uses of the invention include

identifying membrane bound or soluble receptors, as a diagnostic reagent,

in chromosome localisation studies and as a valuable tool in tissue
                                                                                                                                                                                                                                                                                                                                                                                Claim
                                                                                                                                                                                                                                                                                                                                                                                                        Novel dual specificity phosphatase polypeptides useful for treating cancers, epilepsy, stroke, neuronal degeneration syndromes, Alzheimer's disease, depression, schizophrenia, asthma and immune disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAU09946 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           06-APR-2001; 2001WO-EP003966.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      osteoporosis; diabetes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 neuronal degeneration syndrome; Alzheimer's disease; depression;
schizophrenia; asthma; immune disorder; inflammatory process; arthritis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human; dual specificity phosphatase; DUSP-10; cancer; epilepsy; neuronal degeneration syndrome; Alzheimer's disease; depression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Protein sequence of human (dual specificity phosphatase) DUSP-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAU09946;
                                                                                                           expression studies.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-APR-2000; 2000EP-00107143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (MERE ) MERCK PATENT GMBH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                2002-010917/01.
DB; AAS15768.
                                                                                                                                                                                                                                                                                                                                                                             2; Page 37-39; 43pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGGTCACGGGAAGAGCTGGGGAAAGTGGAGTCAGTCTAGCTTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IleIleGluValSer 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first
3.16e-287
3406.00
99.85%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein;
                                                                                                The present sequence represents the dual specificity 0, protein of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ₿
Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                epilepsy; stroke;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            660
                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity:
Query Match:
DB:
                     S
                                                       밁
                                                                                δ
                                                                                                             밁
                                                                                                                                 S
                                                                                                                                                                 片
                                                                                                                                                                                          S
                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ₽.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-029-345A-108_COPY_538_2532 (1-1995) x AAU09946 (1-665)
  321
                          961
                                                       301
                                                                                  901
                                                                                                                                       841
                                                                                                                                                                                              781
                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                221
                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                    161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                             281
                                                                                                                                                                  261
                                                                                                                                                                                                                                                                                                                                     201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                    ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
 GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro
                GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGAGACGCCCCTCAGTCCACCC
                                                       GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn
                                                                                                                                                                                                                     GACAAAGTGTTAATTACAGAGGTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HisīleLeuGluAlaīleAsnīleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                    CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                           ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC
                                                                                                                                                                  LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                 CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCCTATCGCCTACATCATC
                                                                                                                                                                                                                                                                              ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                          CCGTGGTTGGACAAAICAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                             GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerAsnThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                CAGCAGAATGGGATIGGTTATGIGITTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99.70%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          001
  340
                                                          320
                                                                                    960
                                                                                                              300
                                                                                                                                        900
                                                                                                                                                                    280
                                                                                                                                                                                                840
                                                                                                                                                                                                                          260
                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                           720
                                                                                                                                                                                                                                                                                                                                       220
                                                                                                                                                                                                                                                                                                                                                                   660
                                                                                                                                                                                                                                                                                                                                                                                              200
                                                                                                                                                                                                                                                                                                                                                                                                                          600
                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20
```

음성

1201

401

유 문 5 В δ

1141

381

1081

341

361

1021

```
ATCATTGAGGTCTCC
                                                                                                                                          AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 1980
                                                                                                                                                                        GinLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                  CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGACCCCCTTTGAA
                                                                                                                                                                                                                                                                                GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                 ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer
                                                                                                                                                                                                                                                                                                                             ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                            TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC 1680
                                                                                                                                                                                                                                                                                                                                                                                                          CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTCCACTGCATCGAAGTGGGAGGGGAGGACAATTACCACACCAGCTTCCTTTTCGGC 1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GATAAGGAGGAAGCCAGCATCCCCCAAGAAGCTGCAGACCGCCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AsplysGludiuAlaSerlleProLysLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerSerGrunsphlaleuGluTyrTyrLysProSerThrThrLeunspGlyThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC 1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SerGlyLeuHisLeuSerAlaAspArgLeuGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProServalproServaldinProSerLeuLeuGluAspSerProLeuValglnAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LeuHisserValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu
                                                                                           lser
                                                                                                                 1995
                                                                                                                             .uAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             660
                                                                                                                                                                                                1920
                                                                                                                                                                                                                                              1860
                                                                                                                                                                          640
                                                                                                                                                                                                                       620
                                                                                                                                                                                                                                                                                                                                       1740
                                                                                                                                                                                                                                                                    600
                                                                                                                                                                                                                                                                                           1800
                                                                                                                                                                                                                                                                                                                580
                                                                                                                                                                                                                                                                                                                                                              560
                                                                                                                                                                                                                                                                                                                                                                                                                                  1620
                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                        520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                  The present invention relates to a new polypeptide, a naturally occurring amino acid sequence at least 95 % identical to it, a biologically active fragment of it or an immunogenic fragment of it. The polypeptides, polymucleotides, agonists and antagonists are useful for diagnosing, protein phosphatases (Pp), particularly immune system disorders e.g. aschma or Crohn's disease, neurological disorders e.g. asthma or Crohn's disease, neurological disorders e.g. epilepsy, thurtington's disease, dementia or Parkinson's disease, developmental disorders e.g. bonn's syndrome, or cell proliferative disorders e.g. disorders e.g.
                                                                                                                                                                                                                                                                                                                                     28-JUL-2000; 2000US-0221679P.
03-AUG-2000; 2000US-0223272P.
10-AUG-2000; 2000US-0224309P.
18-AUG-2000; 2000US-0226728P.
30-AUG-2000; 2000US-022524P.
08-SEP-2000; 2000US-0231366P.
                                                                                                                                                                New protein phosphatases, useful for diagnosing, treating or preventing immune system disorders (e.g. Crohn's disease), neurological disorders (e.g. Parkinson's disease), or cell proliferative disorders (e.g.
                                                                                                                                                                                                                                     WPI;
                                                                                                                                           Claim 1;
                                                                                                                                                                                                                                                                                             Tang
                                                                                                                                                                                                                                                                                   Stewart
                                                                                                                                                                                                                                                                                                                     (INCY-)
                                                                                                                                                                                                                                                                                                                                                                                                                          26-JUL-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200210363-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Region
                                                                                                                                                                                                                                          Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Кеу
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human; protein phosphatase 7; PP7; immune system disorder; AIDS; acquired immunodeficiency syndrome; thymic hypoplasia; anaemia; asthma; Crohn's disease; neurological disorder; epilepsy; Huntington's disease; dementia; Parkinson's disease; developmental disorder; Down's syndrome; cell proliferative disorder; cancer; adenocarcinoma; leukaemia; lymphom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  08-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAU75789;
                                                                                                                                                                                                                         2002-188735/24.
DB; ABK14474.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sapiens.
                                                                                                                                          Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein phosphatase 7 (PP7) protein
                                                                                                                                                                                                                                                                                                                  INCYTE GENOMICS
                                                                                                                                                                                                                                                                 lliott VS, Ramkı
Gandhi AR, Pa
M, Griffin JA,
                                                                                                                                      107-108; 117pp;
                                                                                                                                                                                                                                                                                                                                                                                                                      2001WO-US023716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "Tyrosine specific
site tyr_phosphatase.prf"
242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note= "Tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /label= Catalytic domain DSPc
/note= "Dual specificity phosphatase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note=_"Dual specificity protein phosphatase"
                                                                                                                                                                                                                                                          ۲
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /label≃
                                                                                                                                                                                                                                                                 Ramkumar J,
R, Patterson (
n JA, Baughn |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .297
                                                                                                                                                                                                                                                                                                                  INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "VH1-type dual specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rhodanese_like_domain
                                                                                                                                     English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       specific
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            phosphatase"
                                                                                                                                                                                                                                                              Yao MG, Bu
C, Lee EA,
MR, Yue H,
                                                                                                                                                                                                                                                                  ¥°.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein
                                                                                                                                                                                                                                                                       Burford N, Wan
A, Hafalia AJA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sequence
```

phosphatases"

phosphatases

active

protein

phosphatase"

RESULT 7
AAU75789
ID AAU7
XX

AAU75789

standard; protein;

665 A 밁 Ś 문 5 뮹 Ş 밁 Ś 밁 Ş 밁 Ş 밁 Ş 뭐 Ś 멍 Ś 문 Ś Вb Ś В δ Ð, Ś

1981

641

1861

601

621

1801

Warren

BA, Wang YE; AJA, Lu!

Nguyen DAM; en DB; 1741

561

581

1681

1621

541

1561

521

1501

501

1441

481

1381

461

1321

441

1261

ន្តន្តន្តន្តន

Percent Similarity:
Best Local Similarity:
Query Match:
DB: 음 성 음 ક 밁 8 ঠ US-10-029-345A-108_COPY_538_2532 cancers including adenocarcinoma, leukaemia, lymphoma, or sarcoma. The present amino acid sequence represents phosphatase 7 (PPT) which is one of several human prote (AAU75783-AAU75792) of the invention 261 781 661 541 601 181 161 481 141 421 121 361 101 241 181 121 81 61 41 21 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG **Α** 3.16e-287 3406.00 99.85% 99.70% 94.22% (1-1995) x AAU75789 Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps: (1-665)665 663 1 protein melanoma, myeloma human protein ein phosphatases 300 840 540 480 260 240 200 180 160 420 120 100 80 60 180 40 20 В ð 밁 S 밁 **5 & 5** 음 성 음 성 음 성 음 성 유 성 유 Ş 밁 S 밁 8 밁 S В Ş В 5 밁 Ś 뮹 S 멍 S 1681 1441 1321 1381 1261 1201 1141 1081 1021 1621 1561 621 541 521 501 481 461 441 421 401 381 361 341 321 301 961 901 281 CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGACCCCTTTGAA AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG AAGCTATGCCAGTTCTCCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 1980 LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro 1860 1800 1680 1620 1560 1080 600 580 560 1500 480 1440 460 1380 440 1320 420 1260 400 1200 380 340 960

음 중 음 중

S

음 성 음

중 음 중

음 성 음·성

S

밁

S

5

밁

```
RESULT 8
ABB97946
ABB97946
AC ABB9
AX ABB9
AX ABB9
AX ABB9
AX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX 
                                                                                                                                                                                                            Best I
Query
DB:
                                                                                                                                                              US-10-029-345A-108_COPY_538_2532 (1-1995) x ABB97946
                                                                                                                                                                                                                          Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                   Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                                                                The invention relates to DNA encoding polypeptides directly cloned from CDNA libraries originating in adult whole brain, human tonsil, human adult hippocampus and human foetal whole brain. Polypeptides and differential expression of the invention may be used in the investigation of disease patients. They may also be used in the production of antibodies, oligonuclectide probes and DNA chips for diagnosis and identification of drugs for treatment of diseases with which the DNA sequences are associated. The sequences given in records ABB97934-ABB97964 represent human proteins of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 1(a); Page 112-116; 238pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Genes and their expression treatment and diagnosis of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ohara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22-DEC-2000; 2000JP-00389742.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20-DEC-2001; 2001WO-JP011217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  04-JUL-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; brain; tonsil; hippocampus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200252005-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human protein sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          06-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABB97946;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABB97946
                                                   21
                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2002-500762/53.
DB; ABN83966.
                                                                                                               _
                                                                                                                                           Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                  KAZUSA DNA RES INST FOUND. CELESTAR LEXICO-SCI LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nagase T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ileileGluValser 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ΑĀ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first
                                                                                                                                                                                                                   3.16e-287
3406.00
99.85%
99.70%
94.22%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nakajima
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       #13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   products cloned from human cDNA libraries diseases associated with their expression
                                                                                           yThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      U
                                                                                                                                                                                               Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             foetal brain; diagnosis.
                                                                                                                                                                 (1-665)
                                                                                                                                                                                                 0011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 expression
                                      40
                                                                                              20
                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             660
                                              밁
                                                                    Ş
                                                                                                        밁
                                                                                                                              Ś
                                                                                                                                                            В
                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                뮍
                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                         1141
                                                                                                                                     1081
                                                                                                                                                                                                 1021
                                           381
                                                                                                        361
                                                                                                                                                                    341
                                                                                                                                                                                                                                321
                                                                                                                                                                                                                                                              961
                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                          901
                                                                                                                                                                                                                                                                                                                                                          281
                                                                                                                                                                                                                                                                                                                                                                                      841
                                                                                                                                                                                                                                                                                                                                                                                                                  261
                                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 AspLysValLeulleThrGluLeulleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                          SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                            AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC 1200
                                                                                         | CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                    TGTGCCGACTCTGCTACCTCAGAGGCAGGACAAAGGCCCGTGCATCCCGCCCAGCGTG 1080
                                                                                                                                                                                                                          GluProValProAlaValSerGl
                                                                                                                                                                                                                                  GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      41
                                                                                                                                                                                                                                                                             GlnThrdiyAlaSerdlyProLysSerLysLeuLysLeuLeuHisLeudluLysbroAsn
                                                                                                                                                                                                                                                                                              CAGACTGGAGGATCAGGGCGAAAGAGCAAACTGAAGCTGCTGGACACCTGGAGAAGAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                        ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC 900
                                                                                                                                                                                                                                                                                                                                       IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                    LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProTrpLeuAspLysSerValAspPhelleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GinGinAsnGlyfleGlyTyrVaiLeuAsnAlaSerAsnThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGCAGAATGGGATTGGTTTATGTGTTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IleProGluSerH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnileGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTTGCAGGTGGGTTTGCTGAGGTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AspCysPheLeuThrValLeuClyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       isPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                              .uGlyGlyGlnLysSerGluThrProLeuSerProPro
                                                                                                                       1140
                               400
                                                                                           380
                                                                                                                                                     360
                                                                                                                                                                                                                                                 1020
                                                                                                                                                                                                                   340
                                                                                                                                                                                                                                                                               320
                                                                                                                                                                                                                                                                                                           960
                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
```

片 Ś 片 Ś

```
Key
Domain
                                                        Human; dual specificity phosphatase 21117; erythroid-related disorder; haematopoietic-related disorder; leukaemia; autoimmune disease; anaemia; erythrocytosis; liver-related disorder; cancer.
                                                                                                      Human
                                                                                                                                                                         AAU79929
                                    Homo sapiens
                                                                                                                                                                                                                                                                                          1921
                                                                                                                                                                                                                                                                                                                                                                                     1801
                                                                                                                                                                                                                                                                                                                                                                                                                                  1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1441
                                                                                                                                                                                                                                                                                                                                       1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                         561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                    641
                                                                                                                                                                                                                                                                                                                                                                                                           581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 401
                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                      dual
                                                                                                                                                                                                                      ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                         standard;
                                                                                                                                                                                                                                                                   ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                                                                                                               AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                           GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                                                            ThrGluSerSerH18PheTyrSerAlaSerAlaIleTyrGlySerAlaSerTyrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCGGATATCTTGGCCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGCTATGCCAGTTCTCCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LeuSerThrSerGl
                                                                                                      specificity phosphatase 21117 protein.
                                                                                                                             (first
Location/Qualifiers 11. .131
                                                                                                                                                                        protein;
                                                                                                                            entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                nGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                         665
                                                                                                                                                                                                                                                                                          1980
                                                                                                                                                                                                                                                                                                                                                                                     1860
                                                                                                                                                                                                                                                                                                                                                                                                                                  1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1320
                                                                                                                                                                                                                                                                    660
                                                                                                                                                                                                                                                                                                                 640
                                                                                                                                                                                                                                                                                                                                       1920
                                                                                                                                                                                                                                                                                                                                                              620
                                                                                                                                                                                                                                                                                                                                                                                                           600
                                                                                                                                                                                                                                                                                                                                                                                                                                                         580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
Alignment Scores: Pred. No.: Score:
                                             The present invention relates to new nucleic acids designated 38692 and 21117 encoding dual specificity phosphatase family members. The nucleic acid, polypeptide encoded by it, and antibody specific for the polypeptide may be used to diagnose and treat haematopoietic-related disorders such as leukaemias and autoimmune diseases, erythroid-related disorders such as anaemias and erythrocytosis, liver-related disorders, and cancers, particularly of the breast, colon, adipose, prostate and lung. The present amino acid sequence represents the human dual lung-throid-related disorders amino acid sequence represents the human dual
                                             Sequence
                                                                                                                                                                                                                               New nucleic acids, designated 38692 and 21117, encoding dual specificity phosphatases for treating cell proliferation and differentiation disorders including hematopoietic and erythroid-related disorders and
                                                                                                                                                                                                                                                                              WPI; 2002-351088/38.
N-PSDB; ABK49402.
                                                                                                                                                                                              Claim 8; Fig 1; 76pp;
                                                                                                                                                                                                                                                                                                                                                              24-MAR-2000; 2000US-0191858P
                                                                                                                                                                                                                                                                                                                                                                                    23-MAR-2001; 2001US-00816494
                                                                                                                                                                                                                                                                                                                                                                                                                                 US2002034807-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Active-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Region
                                                                                                                                                                                                                                                                                                                                       (MEYE/) MEYERS
                                                                                                                                                                                                                                                                                                                 Ŗ
                                               665
                                             Ą
                                                                                                                                                                                                                                                                                                                                       ×
                                                                                                                                                                                                                                                                                                                                                                                                                                                         642. .645
/note= "Ca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /label= Rhodanese_like_domain
21. .24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        369. .372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        242. .254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note= "Tyrosine specific
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note=
 3.16e-287
3406.00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . 94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    . 254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . 620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       . 592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .217
                                                                                                                                                                                               English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Casein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Casein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "C-X5-R motif"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Casein kinase II phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Casein kinase II phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Casein kinase II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Casein kinase II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Casein kinase II phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Casein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Casein kinase II phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Casein kinase II phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Dual specificity phosphatase catalytic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Casein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    kinase II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     kinase II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              kinase II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              kinase II phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   kinase
 Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ΙI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ΙΙ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein phosphatase active
 663
                                                                                                                                                                                                                                                                                                                                                                                                                                                         gite"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bite"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bite"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bite"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         domain"
```

밁 S 밁 5 밁 밁 ð 밁 δ 문 S

S

음 성

밁

ð B

ঠ 밁 S δ 문 ર્સ 밁 δ

片

	601 201 661 221 721	12 42 14: 48: 48: 54: 18:	41 181 61 241 81 301 101	Percent Similarity: 99.85% Mismatches: 1 Query Match: 94.22% Indels: 0 DB: 5 Gaps: 0 US-10-029-345A-108_COPY_538_2532 (1-1995) x AAU79929 (1-665) QY 1 ATGGCCCATGAGATGATTGGAACTCAAATTGGTTACTGAGAGGTTGGTT
Oy 1861 AAGCAGTTTAAACGCAGAAAGCTGCCAAATGGAATTTTGGAGAGAGA) H & H	1441 AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGCAGCAGCCGCCCAGAAGGTCCCTTTTA 1	7 1201 0 401 7 1261 0 421 1321 1381 1381 461	321 1021 341 1081 361 1141

8 8 8 B

S B S

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                              Ş
                                                                                                                       В
                                                                                                                                      5
                                                                                                                                                                                                                                                                     5
                                       B
                                                       ફ
                                                                               밁
                                                                                                                                                               US-10-029-345A-108_COPY_538_2532 (1-1995) x ABB97291 (1-665)
                                                                                                                                                                                                                                                                                      The present invention provides the protein and coding sequences of 444 novel human proteins. These were isolated from expressed sequences tags (ESTS). They can be used to stimulate cell growth, to regulate haematopoiseis e.g. to treat aplastic anaemia, to help tissue regrowth e.g. in burn treatment, to regulate the immune system e.g. to treat multiple sclerosis, to regulate activin or inhibin e.g. to treat infertility, to regulate haemostasis or thrombolysis e.g. to treat and cancer, to screen for drugs, to treat inflammatory conditions e.g. rheumatoid arthritis, and to treat nervous system disorders e.g. parkinson's disease. The present sequence is a protein of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2002-292408/33.
N-PSDB; ABN32477.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; antianaemic; vulnerary; antiinflammatory; immunomodulator; antiinfertility; cerebroprotective; cytostatic; rheumatic; gene t neuroprotective; antiparkinsonian; protein therapy; EST;
                                                                                                                                                                                                                                                                    Sequence 665
                                                                                                                                                                                                                                                                                                                                                                                                                           An isolated polynucleotide for treating diseases associated with encoded polypeptide such as cancer and multiple sclerosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Xue AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tang YT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11-SEP-2000; 2000US-00659671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200222660-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                expressed sequence tag.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        27-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10-SEP-2001; 2001WO-US026015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (HYSE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ABB97291;
                                                                                                                                                                                                                                        80
::
                 181
                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   human protein
  13
                                         41
                                                                                 21
                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                          <u>ب</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Yang Y,
                                                                                           AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                    ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                       HISI1eLeuGluAlaI1eAsnI1eAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                   CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                 SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                        MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID
                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Zhou P,
Wehrman
                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                     3.16e-287
3406.00
99.85%
99.70%
94.22%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ
                                                                                                                                                                                                                                                                                                                                                                                                       559; 509pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'n,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Asundi V,
T, Drmanac
                                                                                                                                                                                             Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                         English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Zhang J, RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Zhao
                                                                                                                                                                                     00 1 1 663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ren
                                                                                                                                                                                                                                                                                                                        treat stroke
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ŧ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   therapy;
                    240
                                         60
                                                              180
                                                                                                      120
                                                                                                                         20
                                                                                 40
                         δ
                                                  밁
                                                                ર્શ્
                                                                                     日
                                                                                                           Ş
                                                                                                                                  밁
                                                                                                                                                 ঠ
                                                                                                                                                                          밁
                                                                                                                                                                                            S
                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                              1141
                                                                                                                                                                                               1021
                                                                        1201
                                                                                                                                                      1081
           421
                                                   401
                                                                                          381
                                                                                                                                   361
                                                                                                                                                                           341
                                                                                                                                                                                                                    321
                                                                                                                                                                                                                                      961
                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                901
                                                                                                                                                                                                                                                                                                                        841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                    281
                                                                                                                                                                                                                                                                                                                                            261
                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                             221
                                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC 1320
                                                  ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                    AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                  ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                              CCCAGCGTGCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                          GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro
                                                                                                                                                                                                                                        GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC 1020
                                                                                                                                                                                                                                                             GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn
                                                                                                                                                                                                                                                                                CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                            LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                      CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCCTATCGCCTACATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerAsnThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
           SerSerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn
                                                    420
                                                                                                                                    380
                                                                                                                                                                             360
                                                                        1260
                                                                                                                 1200
                                                                                                                                                       1140
                                                                                                                                                                                                1080
                                                                                            400
                                                                                                                                                                                                                     340
                                                                                                                                                                                                                                                             320
                                                                                                                                                                                                                                                                                 960
                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                              280
                                                                                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                                                                                                                                                                                     260
                                                                                                                                                                                                                                                                                                                                                                                                          780
                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100
```

Ishii S;

Tamechika

H

secretory or diseases

in

```
14-SEP-2001;
24-JAN-2002;
                                                         21-MAR-2002;
                                                                                                                        Cytostatic; Anti-inflammatory; Osteopathic; Neuroprotective; Nootropic; Gene Therapy; human; secretory protein; membrane proteins; cancer; inflammatory disease; osteoporosis; neurological disease.
                                                                                                                                                                                         20-NOV-2003
                                                                                                                                                                                                                             ADA54744
                                                                                                                                                                                                                                                                                 1981
                                                                                                                                                                                                                                                                                                                     1921
                                                                                                                                                                                                                                                                                                                                                         1861
                                                                                                                                                                     protein,
                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                    641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                 561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      441
                                                                                                                                                                                                                           standard;
                                                                                                                                                                                                                                                           ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                        AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                                                                           GCCTACAGCTGCAGCCAGCTGCCGACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                               ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCGGATATCTTGGCCCCCCAGACCTCTACCCCTTCCCCTGACCAGCAGCTGGTATTTTGCC 1680
                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTCCACTGCATCGAAGTGGGAGGGTGGAGGACAATTACCACACCAGCTTCCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GATAAGGAGGAAGCCAGCATCCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2001JP-00328381.
2002US-0350435P.
                                                         2002EP-00006586
                                                                                                                                                                                      (first
                                                                                                                                                                    SEQ ID
                                                                                                                                                                                                                         protein;
                                                                                                                                                                                     entry)
                                                                                                                                                                     2312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                        Ã
                                                                                                                                                                                                                                                                                                                             640
                                                                                                                                                                                                                                                                                                                                                                 620
                                                                                                                                                                                                                                                                                                                                                                                                   600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           460
                          Ş
                                                           Š
                                                                              뫄
                                                                                              δ
                                                                                                                 В
                                                                                                                                   Ş
                                                                                                                                                        뫄
                                                                                                                                                                      Ś
                                                                                                                                                                                           멍
                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                              Вb
                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                          뫄
                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                    US-10-029-345A-108_COPY_538_2532 (1-1995) x ADA54744 (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present invention relates to novel human secretory or membrane proteins (ADA54072-ADA55710) and their coding sequences (ADA52433-ADA54071). The coding sequences are useful in the gene therapy of diseases caused by abnormalities of the proteins, e.g. cancer, inflammatory diseases, osteoporosis or neurological disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 665 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 14; SEQ ID NO 2312; 205pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New polynucleotides encoding full-length polypeptides, e.g. secreto: and/or membrane proteins, useful for developing medicines for diseas which the gene is involved, or as target molecules for gene therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Isogai T,
Yamamoto J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (HELI-)
(REAS-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Seki N,
                                             161
                                                               481
                                                                                 141
                                                                                                  421
                                                                                                                      121
                                                                                                                                      361
                                                                                                                                                        101
                                                                                                                                                                         301
                                                                                                                                                                                                            241
                                                                                                                                                                                           81
                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                  41
                                                                                                                                                                                                                                                                                                       21
                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2003-395539/38.
DB; ADA53105.
ThrLeuValProThrCyslleSerGlnProCysLeuProValAlaAsnileGlyProThr
                                                                                 ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                        CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                              GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                 Hisil
                                                                                                                                                                                                                                                                   CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                           HELIX RES
RES ASSOC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         r, Sugiyama T,
J, Isono Y,
Yoshikawa T,
                                                                                                                                                                                                                                                                  eLeuGl
                                                                                                                                                                                                                                                                                                                                                                                           1.28e-286
3399.00
99.70%
99.55%
94.02%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INST.
BIOTECHNOLOGY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ħ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Otsuki T, Wakamatsu A,
Hio Y, Otsuka K, Nagai
Otsuka M, Nagahari K, M
                                                                                                                                                                                                                                                      leAsnileAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                        Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A, Sato H, Is
ai K, Irie R,
Masuho Y;
                                                                                                                                                                                                                                                                                                                                                                                        0 0 N
```

40

20

RESULT 11
ADA54744
ID ADA54
XX ADA54
XX ADA54
XX ADA54
XX ADA54
XX Cytos
CY Cytos
KW Gene
KW Gene
KW Gene
XX Homo
XX Homo
XX 11129
XX EP129
XX EP129
XX ATA
PF 21-MA
XX 24-JA
XX 24-JA

600 180 540 160 480 140 420 120 360 100 300 80 240 60

뮍 S 밁 Ş д Ś 밁 δ В

중 유

중 유

& A B S

Б Ş 유

밁 S 뮍

В δ В 5

ঠ 밁 ð

```
1321
                        1621
                                                                                                                 1501
                                                                                                                                                               1441
                                                                                                                                                                                                                                                                                                                                                                                                  1141
                                                                                                                                                                                                                                                                                                                                                                                                                                               1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1021
                                                                                                                                                                                                                                                                                                      1261
                                                                                                                                                                                                                                                                                                                                                     1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     341
                                                                                                                                        481
                                                                                                                                                                                      461
                                                                                                                                                                                                                                   441
                                                                                                                                                                                                                                                                                                                               401
                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                            501
                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                            381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   321
  541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                  GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                              SerGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                             SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                        TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCACCAGCTTCCTTTTCGGC
                                                                                                                                        SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu
                                                                                                                                                   AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                   LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                                                                          AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                              SerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn
                                                                                                                                                                                                                                                                                                       TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                             TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                       AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                         ProSerValProSerValGlnProSerLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                    CCCAGCGTGCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGTGCCGACTCTGCTACCTCAGAGGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                            lsLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                       1680
                                                                     1620
                                                                                                                                                               1500
                                                                                                                                                                                                            1440
                                                                                                                                                                                                                                                         1380
                                                                                                                                                                                                                                                                                                        1320
                                                                                                                                                                                                                                                                                                                                                                                                                                               1140
                                               540
                                                                                            520
                                                                                                                 1560
                                                                                                                                        500
                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                       1260
                                                                                                                                                                                                                                                                                                                                                                                                  1200
                                                                                                                                                                                                                                                                                                                                                                                                                           380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
  560
                                                                                                                                                                                                                                   460
                                                                                                                                                                                                                                                                                 440
                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                              400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      220
```

5 B 5

음 성 음

Ś

음 성 В ક 멍

유 성 유

δ

The present invention relates to a new polypeptide, DSP-16, having a amino acid sequence, given in the specification, or a variant having least 50 % identical residues, which retains the ability to dephosphorylate an activated mitogen-activated protein (MAP) kinase. invention can be used for identifying agents which modulate DSP-16

음 성 당 Ś

ક

음 중

유정

5 В

밁

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                 음 성 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                              Human; dual-specificity phosphatase-3; DSP-16; autoimmune disease; mitogen-activated protein kinase; MAP; Duchenne muscular dystrophy; cancer; graft-verse disease; allergy; metabolic disease; abnormal cell growth; abnormal cell proliferation; contact inhibition; cell cycle abnormality; anchorage independent cell growth; apoptosis; intercellular adhesion; DSP-16 modulator; mutant; mutein.
                                                            New DSP-16 polypeptide, useful for identifying modulators activity, which can be used in the treatment of disorders Duchenne muscular dystrophy, or cancer.
                                                                                                            Luche
                                                                                                                                                                                                                                       Homo sapiens.
Synthetic.
                                                                                                                                                                                                                                                                                                                                     02-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                    AAU79161 standard;
                                              Claim 46; Page; 87pp;
                                                                                                                                           26-SEP-2000; 2000US-0235487P
                                                                                                                                                         25-SEP-2001; 2001WO-US030124.
                                                                                                                                                                          04-APR-2002
                                                                                                                                                                                         WO200226997-A2
                                                                                                                                                                                                                 Misc-difference
                                                                                                                                                                                                                                                                                                                     Human
                                                                                                                                                                                                                                                                                                                                                     AAU79161;
                                                                                                                            (CEPT-) CEPTYR
                                                                                                                                                                                                                                                                                                                                                                                                                  1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1921
                                                                                            2002-315802/35
                                                                                                                                                                                                                                                                                                                                                                                                                                  641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              561
                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                            꽃
                                                                                                                                                                                                                                                                                                                     dual-specificity phosphatase-3 (DSP-16) mutant
                                                                                                                                                                                                                                                                                                                                                                                                  ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTTCGGGCAGCATGGAA 1980
                                                                                                            Wei
                                                                                                                                                                                                                                                                                                                                    (first
                                                                                                                            INC.
                                                                                                                                                                                                                Location/Qualifiers 213
                                                                                                                                                                                                         note=
                                                                                                                                                                                                                                                                                                                                                                   protein;
                                                                                                                                                                                                                                                                                                                                    entry)
                                              English
                                                                                                                                                                                                         "Wild-type Asp substituted
                                                                                                                                                                                                                                                                                                                                                                                                                   1995
                                                                                                                                                                                                                                                                                                                                                                                                    665
                                                                                                                                                                                                                                                                                                                                                                    665
                                                                                                                                                                                                                                                                                                                                                                    ₿
                                                                                                                                                                                                         γģ
                                                                                                                                                                                                                                                                                                                     protein
                                                                            O.ff
                                                                      Buch
                                                                      its
ch as
                                                                                                                                                                                                                                                                                                                     #
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1800
                                                                                                                                                                                                                                                                                                                                                                                                                                   660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1740
```

```
Alignment
Pred. No.:
Score:
                                                                                                                                                                                                                                                                                                                                                                                                US-10-029-345A-108_COPY_538_2532 (1-1995) x AAU79161
                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          activity, for modulation of a proliferative response in a cell, survival of a cell, or differentiation of a cell. The cell displays contact inhibition of cell growth or anchorage independent growth and may display cell cred intercellular adhesion. The agent may modulate apoptosis, or the muscular dystrophy, cancer, graft-versus-host disease, autoimmune diseases, allergies, metabolic diseases, abnormal cell growth, abnormal sequence represents the human dual-specificity phosphatase-3 (DSP-16) mutant protein #1. Note: This sequence is not shown in the specification but is derived from the wild-type human DSP-16 (AAU79156) protein given in figure 2 of the specification
                           221
                                        661
                                                        201
                                                                       601
                                                                                       181
                                                                                                     541
                                                                                                                     161
                                                                                                                                    481
                                                                                                                                                    141
                                                                                                                                                                   421
                                                                                                                                                                                  121
                                                                                                                                                                                                 361
                                                                                                                                                                                                                 101
                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                               81
                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                            41
                                                                                                                                                                                                                                                                                                                                           21
                                                                                                                                                                                                                                                                                                                                                         61
                           | CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCCAATGGATGTGTT
                                               ATCCCCGAGTCTCATTTCCTGCGTGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                              CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                  ProTrpLeuAspLysSerValAspPheileGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                            ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                 CTTGCAGGTGGGTTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                         GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                     SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                           AGTGGAACGGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ğ
                                                                                                                                           l ProThrCysileSerGinProCysLeuProValAlaAsnileGiyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                           1.57e-286
3398.00
99.70%
99.55%
94.00%
                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                  (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                 0021
                                                                                             600
                                                                                                              180
                                                                                                                            540
                                                                                                                                            160
                                                                                                                                                          480
                                                                                                                                                                           140
                                                                                                                                                                                         420
                                                                                                                                                                                                         120
                                                                                                                                                                                                                                       100
                                                                                                                                                                                                                                                                      80
                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                  40
                      Ъ
                                                 음 성 음
                                 Ş
                                                                                              정 유
                                                                                                                            Ş
                                                                                                                                            음 성 음
                                                                                                                                                                                           S
                                                                                                                                                                                                         В
                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                          B
                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                 뮹
                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                               뫄
                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                    1681
                                                                                                                                1561
                                                                                                                                                                                             1441
                                                    561
                                                                                  541
                                                                                                                                                501
                                                                                                                                                                                                                            1381
                                                                                                                                                                                                                                                          1321
                                                                                                                                                                               481
                                                                                                                                                                                                             461
                                                                                                                                                                                                                                                                                         1261
                                                                                                                                                                                                                                                                                                                                                      1141
                                                                                                                                                                                                                                                                                                                                                                                    1081
                                                                                                                                                                                                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                            441
                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                       1201
                                                                                                                                                                                                                                                                                                         401
                                                                                                                                                                                                                                                                                                                                       381
                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                  341
                                                                                                                                                                                                                                                                                                                                                                                                                                  321
                                                                                                                                                                                                                                                                                                                                                                                                                                                 961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
              CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                          TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC 1680
                                                                                                        GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                      AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                    AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                 AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                      ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                          CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                   TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                         CAGACTGGAGGATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATATUTCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1800
                                              580
                                                                                                                         1620
                                                                                                          540
                                                                                                                                                        1560
                                                                                                                                                                                       1500
                                                                                                                                                                       500
                                                                                                                                                                                                                     1440
                                                                                                                                                                                                                                                   1380
                                                                                                                                                                                                      480
                                                                                                                                                                                                                                     460
                                                                                                                                                                                                                                                                   440
                                                                                                                                                                                                                                                                                  1320
                                                                                                                                                                                                                                                                                                                1260
                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                               1200
                                                                                                                                                                                                                                                                                                                                                                             1140
                                                                                                                                                                                                                                                                                                                                400
                                                                                                                                                                                                                                                                                                                                                              380
                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                           340
                                                                                                                                                                                                                                                                                                                                                                                                                                         1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                         320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       900
```

Ś 밁 Ş 밁 5 В δ 占 Ś Дb Ş В Ş B Ś 밁 Ś 밁 Ş 뫄 Ś В Ś

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ક
The present invention relates to a new polypeptide, DSP-16, having a 665 amino acid sequence, given in the specification, or a variant having at least 50 % identical residues, which retains the ability to dephosphorylate an activated mitogen-activated protein (MAP) kinase. The invention can be used for identifying agents which modulate DSP-16 activity, for modulation of a proliferative response in a cell, survival of a cell, or differentiation of a cell. The cell displays contact inhibition of cell growth or anchorage independent growth and may display altered intercellular adhesion. The agent may modulate apoptosis, or the cell cycle. The identified modulators can be used to treat Duchenne muscular dystrophy, cancer, graft-versus-host disease, autoimmune diseases, allergies, metabolic diseases, abnormal cell growth, abnormal cell proliferation, and cell cycle abnormalities. The present amino acid sequence represents the human dual-specificity phosphatase-3 (DSP-16)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; dual-specificity phosphatase-3; DSP-16; autoimmune disease; mitogen-activated protein kinase; MAP; Duchenne muscular dystrophy; cancer; graft-versus-host disease; allergy; metabolic disease; abnormal cell growth; abnormal cell proliferation; contact inhibition; cell cycle abnormality; anchorage independent cell growth; apoptosis; intercellular adhesion; DSP-16 modulator; mutant; mutein.
                                                                                                                                                                                                                         New DSP-16 polypeptide, useful for identifying modulators of its activity, which can be used in the treatment of disorders such a Duchenne muscular dystrophy, or cancer.
                                                                                                                                                                                                                                                                                                         Luche
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              02-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAU79162;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAU79162 standard;
                                                                                                                                                                                                     Claim
                                                                                                                                                                                                                                                                                                                                                         26-SEP-2000; 2000US-0235487P
                                                                                                                                                                                                                                                                                                                                                                                   25-SEP-2001; 2001WO-US030124
                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200226997-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1861
                                                                                                                                                                                                                                                                                2002-315802/35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                  46; Page; 87pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   dual-specificity phosphatase-3 (DSP-16) mutant protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IleIleGluValSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGGTCACGGGAAGAGCTGGGGAAAGTGGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Wei B;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note= "Wild-type Cys substituted by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    #2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity:
Query Match:
DB:
                        밁
                                                     δ
                                                                                 밁
                                                                                                       Ś
                                                                                                                                  밁
                                                                                                                                                        S
                                                                                                                                                                                      밁
                                                                                                                                                                                                         S
                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ន្តន្តន្តន្ត
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-029-345A-108_COPY_538_2532 (1-1995) x AAU79162 (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mutant protein #2. Note: This sequence is not shown in the specification but is derived from the wild-type human DSP-16 (AAU79156) protein given in figure 2 of the specification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 665 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  No.:
                                                                                                                                                             661
                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                              141
                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                       781
                                                                                  241
                                                                                                          721
                                                                                                                                     221
                                                                                                                                                                                       201
                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                            161
                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                      101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HisīleLeuGluAlaīleAsnīleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                  CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                       CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAACGAGCTGATA
                                                                                                                                                                                                                                                                                                                                             SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                            CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCCTATCGCCTACATCATG
                                                                                                                                                                                    ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                          GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerAsnThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                          ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuMet
                                                                                                                                                                                                                                                                                                                                                                                                                CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                             {\tt LygArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr}
                                                                                  LeuValHisSerLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                  LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2.34e-286
3396.00
99.70%
99.55%
93.94%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0021666
         900
                                                          840
                                                                                    260
                                                                                                            780
                                                                                                                                      240
                                                                                                                                                               720
                                                                                                                                                                                         220
                                                                                                                                                                                                                 660
                                                                                                                                                                                                                                           200
                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                 160
                                                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                                     140
                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20
```

```
1921
                                                          1861
                                                                                            1801
                                                                                                                               1741
                                                                                                                                                                 1681
                                                                           601
                                                                                                              581
                                                                                                                                                                                                    1621
                                                                                                                                                                                                                                     1561
                                                                                                                                                 561
                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                       1501
                                                                                                                                                                                                                                                                                                          1441
                                                                                                                                                                                                                     521
                                                                                                                                                                                                                                                                                                                                           1381
                                                                                                                                                                                                                                                                                                                                                                              1321
                                                                                                                                                                                                                                                       501
                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                          461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1141
                                                                                                                                                                                                                                                                                                                                                             441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1081
                                                                                                                                                                                                                                                                                                                                                                                                                                  401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        341
   AGGTCACGGGAAGACCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                              901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              281
                                                                GinLysProSerAspArgAlaAspSerArgArgSerTrpHisdluGluSerProPheGlu
                                                                           GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                  AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                    ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                  TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTCACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                       SerAspileLeuAlaproGinThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                         LeuSerThrserGinGinHisLeuThrLysSerAlaGiyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                                                                     CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                             SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                     TCTCCACTGCATCGAAGTGGGAGGGGGAGGACAATTACCACCAGCTTCCTTTTCGGC 1560
                                                                                                                                                                                                                                                                             SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu
                                                                                                                                                                                                                                                                                         AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA 1500
                                                                                                                                                                                                                                                                                                               GATAAGGAGGAAGCCAGCATCCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                            AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                  LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                                                                                                                                                                                                    TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                      SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerGlyLeuHisLeuSerAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ProSerValDroSerValGinProSerLeuLeuGiuAspSerProLeuValGinAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlnThrGlyAlaSerdlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGACTGGAGGATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  laAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
               1980
                                                                                   1860
                                                                 620
                                                                                                                    1800
                                                                                                    600
                                                                                                                                      580
                                                                                                                                                       1740
                                                                                                                                                                                          1680
                                                                                                                                                                                                                           1620
                                                                                                                                                                        560
                                                                                                                                                                                                           540
                                                                                                                                                                                                                                              520
                                                                                                                                                                                                                                                                               500
                                                                                                                                                                                                                                                                                                                                  1440
                                                                                                                                                                                                                                                                                                                                                                   1380
                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                   460
                                                                                                                                                                                                                                                                                                                                                                                                                                        1260
                                                                                                                                                                                                                                                                                                                                                                                     440
                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                   Alignment :
Pred. No.:
Score:
Percent Similarity:
Best Local Similarity:
                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
```

망 Ś 뭐 Ş 문 S В Ś д Ş 밁 Ş 밁 Ş В δ 당 Ś В Ş B & 함 Ś 밁 Ş 밁 Ś đ Ş 밁 δ Ъ Ş 밁

1.16e-285 3388.00 99.55% 99.40%

Length:
Matches:
Conservative:
Mismatches:

```
The invention relates to a novel isolated nucleic acid comprising a polynucleotide having a nucleotide sequence selected from 40 cc polynucleotides fully defined in the specification. The polynucleotide of the invention has antiproliferative, hepatotropic, nephrotropic, antiarthritic, antiproliferative, hepatotropic, nephrotropic, condition, and cytostatic activity. The polynucleotide may have a use in gene therapy. A polynucleotide or cc polypeptide of the invention is useful for preventing, treating or cc ameliorating a medical condition, e.g. a proliferative disorder. They are cd isocates including arthritis and psoriasis, cardiovascular disorders including arthritis and psoriasis, cardiovascular disorders cc such as congenital heart defects and congestive heart failure, and cc cancer. A method of the invention is useful for diagnossing a pathological condition or susceptibility to a condition in a subject. The present ry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 14
ABR52352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Jackson
Siemers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Novel polynucleotides encoding the prevention or treatment of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20-DEC-2000; 2000US-0256868P.
30-MAR-2001; 2001US-0280186P.
01-MAY-2001; 2001US-0287735P.
05-JUN-2001; 2001US-0295848P.
25-JUN-2001; 2001US-0300465P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Krystek
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (BRIM ) BRISTOL-MYERS SQUIBB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   antiproliferative; hepatotropic; nephrotropic; antiarthritic; antipsoriatic; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart defect; congestive heart failure; cancer; human; mouse; yeast; rat; fruitfly.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20-DEC-2001; 2001WO-US050459.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Protein relating to the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABR52352;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABR52352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2002-599721/64.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
665
                                                                                                                                                                                                                                                                                                                                                                                                                 Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IleIleGluValSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCATTGAGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            {\tt ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu}
ΑĀ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Feder J, Nelson T,
Bol D, Schieven G,
Mcatee P, Suchard S,
                                                                                                                                                                                                                                                                                                                                                                                                                 <u>ت</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                         801pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein;
                                                                                                                                                                                                                                                                                                                                                                                                         English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        human
e.g. p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mintier G, Ramanathan C, Lee L; Finger J, Todderud CG, Bassolino, Banas D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   phosphatase polypeptides useful
proliferative and cardiovascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ď,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'n
```

Qy 841 ATACTCCAAACTTCAATTTCTGGGCCAACTCCTGGACTAGAAGAAGAACTAGAACTTCAATTTCTGGGCCAACTCCTGGACTAGAAGAAGAAGAACTAGAAACTTCAAATTTCTGGGCCAACTCCTGGACTAGAAGAAGAAGAACTAGAACTCAAGAAGAAGAACTCAAGAAGAAGAAGAAGAACTGAAGCTGGAGAAGCCAAAT 960 Qy 901 CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCACCTGGAGAAGCCAAAT 960	221 ProTrpLeuAspLysSerValAspPheIleGluLysAlaSerAsnGlyCysVal 2 221 ProTrpLeuAspLysSerValAspPheIleGluLysAlaSerAsnGlyCysVal 2 721 CTAGTGCACTGTTTAGCTGGGATCTCCCGCCCACCATCGCTATCGCCTACATCATG 7 1	Db 161 ArgileLeuProAmpleuTyrLeuGlyCysGlnArgAspValleuAsnLysGluLeuMet 180 Qy 541 CAGCAGAATGGGATTGGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT 600	Db 101 AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu 120 Qy 361 CTTGCAGGTGGGTTTGCTGAGTTCTCCTGTTGTTTTCCCTGGCCTCTTGAAGGAAAATCC 420	41 HisiTieLeuGluAlaiTieAsnileAsniCysSerLysLeuMetLysArgArgLeuGluGin 6 181 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 7 181 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 7 181 GACAAAGTGTTAATTACAGAGCTCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 7 181 GACAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCCAAGATGTTGCCTCCTCTCTCA 3 181 CysSerGInLysValValVyalTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 1 301 GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG 3 181 CysSerGInLysValValVyalTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 1 301 GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG 3 181 CysSerGInLysValValVyalTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 1	Query Match: 93.72% Indels: 0 DB: 5 Gaps: 0 US-10-029-345A-108_COPY_538_2532 (1-1995) x ABR52352 (1-665) Qy 1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGAA 60
Db 641 ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu 660 Qy 1981 ATCATTGAGGTCTCC 1995 Db 661 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Db 581 AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg 600 Qy 1801 CAGAAGCCAAGTGACAGAGCTGACTCGCGGGGGGAGCTGGCATGAAGAGAGCCCCTTTGAA 1860	1621 TCGGATATCTTGGCCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCAGCAGCAGCAGTATTTTGCC	Qy 1441 AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA 1500	1261 TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC	Qy 1021 TGTGCCGACTCTGCTACCTCAGAGGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG 1080

```
PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESENTATION OF THE PRESEN
       Modified-site
                                     Modified-site
                                                                         Modified-site
                                                                                                        Modified-site
                                                                                                                                            Modified-site
                                                                                                                                                                                Modified-site
                                                                                                                                                                                                                 Modified-site
                                                                                                                                                                                                                                                   Modified-site
                                                                                                                                                                                                                                                                                       Modified-site
                                                                                                                                                                                                                                                                                                                       Modified-site
                                                                                                                                                                                                                                                                                                                                                        Modified-site
                                                                                                                                                                                                                                                                                                                                                                                          Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                            Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Active-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Protein phosphatase and kinase protein; PPHKP-4; human; gastrointestinal disorder; immune system disorder; neurological
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        proliferative disorder; cancer; diagnosis; therapy.
/note=
605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                          /note=
528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                phosphatase and kinase protein-4.
                                                                                                                                              /note=
479
                                                                                                                                                                                                                                                   /note=
439
                                                                                                                                                                                                                                                                                                                         /note=
422
                                                                                                                                                                                                                                                                                                                                                        /note=
421
                                                      note=
                                                                                                                                                                                                                                                                                                                                                                                                                            /note=
                                                                                                                                                                                                 note=
                                                                                                                                                                                                                                note=
                                                                                                                                                                                                                                                                                                      'note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note=
237. .:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note=
212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note=
                                                                                                                                                                                                                                                                                                                                                                                                             note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             note= "0-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note=
72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note=
23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       note= "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .278
              "O-phosphorylated"
                                                "O-phosphorylated"
                                                                                    "O-phosphorylated"
                                                                                                                    "O-phosphorylated"
                                                                                                                                                     "O-phosphorylated"
                                                                                                                                                                                         "O-phosphorylated"
                                                                                                                                                                                                                                                           "O-phosphorylated"
                                                                                                                                                                                                                           "O-phosphorylated"
                                                                                                                                                                                                                                                                                                "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                  "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                    "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                     "O-phosphorylated
                                                                                                                                                                                                                                                                                                                                                                                                                                     "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "O-phosphorylated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Y phosphatase signature"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "0-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "VH1-type dual specificity phosphatase signature"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "O-phosphorylated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "tyrosine specific protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "O-phosphorylated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "O-phosphorylated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            phosphatase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           disorder;
```

```
Ś
                                          Д
                                                                Ş
                                                                                                                                                                                                            US-10-029-345A-108_COPY_538_2532
                                                                                                                Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                Score:
                                                                                                                                                                                                                     The present sequence is that of novel human protein phosphatase and C kinase protein pPHKP-4, as predicted from Incyte Clone ID No. 1234795CB1 CC (see AAF30479). Tissues that express pPHKP-4 (as a fraction of total C cardiovascular (0.154), nervous (0.154) and reproductive (0.154). CC Diseases or conditions associated with tissues expressing PPHKP-4 (as a fraction of total tissues expressing PPHKP-4) include cancer (0.692), CC inflammation or trauma (0.308) and cell proliferation (0.231). The C encoded protein shows homology to mouse neuronal tyrosine threonine CC (see AAB20322-32) and polynucleotides (see AAF30476-86). It also provides CC expression vectors, host cells, antibodies, agonists and antagonists, as methods for diagnosing, treating or preventing disorders (2 disorders, immune system disorders, neurological disorders and cell
                                                                                                                                                                           No.:
                                                                                                                                                                                                            Sequence 666
                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 1; Page 87-88; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel human protein phosphatase and kinase proteins for diagnosis, treatment and prevention of gastrointestinal, immune system, neuro and cell proliferative disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-PSDB; AAF30479.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2001-244811/25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Yue H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (INCY-) INCYTE GENOMICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14-SEP-2000; 2000WO-US025515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22-MAR-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200120004-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Modified-site
                61
AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                            ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tang YT,
                                                                                                                                                                                                            AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0154141P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note=
643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note=
610
/note=
613
                                                                                                                        6.4e-285
3379.50
99.40%
99.25%
93.49%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bandman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "O-phosphorylated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "O-phosphorylated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ó
                                                                               (1-1995) x AAB20325 (1-666)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hillman JL,
                                                                                                         Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Baughn
                                                                                                                                                       666
                                                                                                            -\omega \sim r
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₩
R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Azimzai
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    neurological
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ۲,
                                 20
```

밁

21

SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer

.

12	TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTI	1201
	. AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCT	1141 381
5-12	CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGC	1081 361
ដ=ឝ	TGTGCCGACTCTGCTACCTCAGAGG	1021 341
ი—6	GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGGGAGACGCCCCTCAGTCCACCC	961 321
ë—∺	CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCA 	901 301
p —0	ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAI	841 281
н—н	AAGAGGATGGACATGTCTTTAGATGAAAGCTTACAGATTTGTGAAAGAAA	781 261
ი—ი	CTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCACCATCGCTATCGCCTACA?	721 241
⊢	CCGTGG 	661 221
E — 0	ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAA 	601 201
(U — F)	CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGAC 	541 181
т ъ		481 161
H ()	ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCA	421 141
40	CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAA 	361 121
⊏ — Q	GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCAC 	301
r —⊅	TGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCCTCTCTCT	241 81
ю́ — н	GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACA 	181
ສ — ດ	CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACA 	121 41

Search completed: June 21, 2004, 12:34:14 Job time: 154.589 secs

중 유

um ruge blank (uspto)

```
Minimum
Maximum
Result
No.
                                                                                                                                                                                                                                                                                                         -MODEL-frame+ n2p model -DEV=x1p
-Q-(cgn2 1/USPTO spool p/US10029345/runat 21062004 122816 4205/app query.fasta_1.3278
-Q-(cgn2 1/USPTO spool p/US10029345/runat 21062004 122816 4205/app query.fasta_1.3278
-DB=PIR 78 -QFMT=fastan -SUFFIX=rpr -MINMATCH=0.1 -LOOPCL=0 -LOOPEXT=0
-UNITS=bits -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi -LIST=45
-DCALIGN=200 -THR_SCORE=pct -THR_MAX=100 -THR_MIN=0 -ALIGN=15 -MODE=LOCAL
-OUTFMT=pto -NORM=ext -HEAPSIZE=500 -MINLEN=0 -MAXLEN=200000000
-USER=US10029345 @CGN 1 78 @runat 21062004 122816 4205 -NCPU=6 -ICPU=3
-NO MMAP -LARGEQUERY -NEG SCORES=0 -WAIT -DSPBLOCK=100 -LONGLOG
-DEV_TIMEOUT=120 -WARN TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPOP=6
-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Run
                                                                                                                                                                                                                                                                           Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Command line parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB
DB
  Score
                                                                                                      18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   seq
                                                                                                 No. is the number of results predicted by chance to have a greater than or equal to the score of the result being printed, s derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein search, using frame_plus_n2p model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   length: 0
length: 2000000000
Query
Match
                                                                                                                                                                                    PIR_78:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Xgapop 10.0
Ygapop 10.0
Fgapop 6.0
Delop 6.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           June 21, 2004, 12:28:26; Search time 15.7715 Seconds (without alignments)
11051.549 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            283366 seqs, 96191526 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-108_COPY_538_1443
1627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             atggcccatgagatgattgg.....agaagattaagaaccagact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Copyright
Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     . . . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.
ВВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Xgapext
Ygapext
Fgapext
Delext
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     summaries
                                                                 SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       7700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       . . . . . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     566732
Description
```

207.5 12.8 222 2 149365 205 12.6 223 2 149365 202 12.4 364 1 831304 201.5 12.4 12.6 233 2 149365 195.5 12.0 185 1 A47196 195.5 11.0 283 2 G84458 183.5 11.3 276 2 T48906 183.5 11.0 866 2 F88481 173.5 10.7 204 2 T17802 160.5 9.9 580 2 T18439 160.5 9.9 600 2 T18439 160.5 9.9 600 2 T18439 160.5 9.9 600 2 T18439 152 9.3 292 2 S41012 145.5 8.9 171 1 26845 145.5 8.9 171 2 T28522 145.5 8.9 171 2 T28522 145.5 8.9 171 2 T28522 145.5 8.9 171 2 T28522 145.5 8.9 171 2 T28522 145.5 8.9 171 2 T28522 145.5 8.9 171 2 T28522 145.5 8.9 171 2 T28522 145.5 8.9 171 2 T28522 145.5 8.9 171 2 T28522 145.5 8.9 171 2 T28522 145.5 8.9 171 2 T28523 144.5 8.9 171 2 T28523 144.5 8.9 171 2 T28523 144.5 8.9 171 2 T28523 144.5 8.9 171 2 T28523 144.5 8.9 171 2 T28523 145.5 8.9 171 2 T28534 134 8.2 172 2 T19418 127.5 7.8 1132 2 T19418 127.5 7.8 1132 2 T39403 121 7.4 928 2 S50578	15
	208
מרמים ברמממ ברממ ברממ ברממ ברממ ברממ ברממ	
*	272
·	
protein tyrosine dual specificity grobable protein protein protein protein protein protein protein protein protein protein protein protein protein protein protein class pecificity protein dual specificity phosphatase-like hypothetical proposable dual specificity probable dual spoprobable dual specificity hypothetical produal specificity hypothetical produal specificity hypothetical product specifical product specificity hypothetical product specificity hypothetical product specificity hypothetical product specificity hypothetical product specificity hypothetical product specificity hypothetical product specificity hypothetical product specificity hypothetical product specificity	hypothetical
protein tyrosine p dual specificity p dual specificity p dual specificity p purchable protein p probable protein-tyrosine p probable protein-tyrosine-p dual specificity m protein C16A3.1 [i hypothetical prote dual specificity p phosphatase-like p hypothetical prote probable dual spece probable dual spece probable dual spece probable dual spece probable dual spece dual specificity p dual specificity p dual specificity p dual specificity p hypothetical prote phypothetical prote dual specificity p hypothetical prote dual specificity p	prot

ALIGNMENTS

Query DB: A;Molecule type: DNA A;Residues: 1-619 <CH1> A;Cross-references: EMBL:U23178; NID:g726421; PID:g726422; PIDN:AAC46719.1; CESP:F08B1.1 A;Experimental source: strain Bristol N2 C;Genetics: R;Chissoe, S.
submitted to the EMBL Data Library, July 1995
spubmitted to the EMBL Data Library, July 1995
A;Bescription: The sequence of C. elegans cosmid F08B1
A;Reference number: Z18439
A;Accession: T15969
A;Accession: T15969 hypothetical protein F08B1.1 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #tcC;Accession: T15969 RESULT T15969 8 밁 5 US-10-029-345A-108_COPY_538_1443 (1-906) x T15969 (1-619) Percent Similarity: Best Local Similarity: Alignment Scores: A; Status: preliminary; translated A; Introns: Gene: CESP:F08B1.1 Match: No.: 421 ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTA-----CCTGTTGCCAACATTTGGG 367 GGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTTGTGTGAAGGAAAATCC-----99 22/2; 57/1; 99/1; 160/3; 252/2; 549/3 ThrArgLeuProGlnSerLeuSerGlnProCysLeuSerGlnProThrGlyAsp---Gly 5.25e-32 450.00 69.66% 50.56% 27.66% from GB/EMBL/DDBJ Length:
Matches:
Conservative:
Mismatches:
Indels: 20-Sep-1999 #text_change 20-Sep-1999 000 000 004 004 004 118 420

10 11 11 13

409 377.5 351 325 289 223.5 222.5 212.5

314 367 314 313 393 384 365 226

dual

l specificity p l specificity p l specificity p othetical prote specificity

hypothetical hypothetical

protein

tyrosine prote prote

밁

119

A56115 A57126 S29090 S52265 B57126 A56947 I38890 T46405

418 415

619 367 394

T15969 S24411

hypothetical prote dual specificity p dual specificity p dual specificity p dual specificity p dual specificity p

```
A;Residues: 1-36, A;Cross-references: EMBL:X61940; NID:g49/35; Filt.
A;Cross-references: EMBL:X61940; NID:g49/35; Filt.
C;Genetics:
A;Gene: erp
A;Introns: 123/1; 172/1; 245/1
C;Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity C;Keywords: immediate-early protein; phosphoprotein; phosphoric monoester hydrolase F;181-312/Domain: VH1-type dual specificity phosphoprotein phosphatase homology <VH1-F;258/Active site: Cys (phosphocysteine intermediate) #status predicted</pre>
                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 2

$24411

dual specificity phosphoprotein phosphatase (EC 3.1.3.-) 1 - mouse N,Alternate names: 3CH134 protein; protein-tyrosine-phosphatase erg C;Species: Mus musculus (house mouse)
C;Date: 19-Feb-1994 #sequence_revision 02-May-1994 #text_change 11.
C;Accession: A54681, S24411
R;Noguchi, T.; Metz, R.; Chen, L.; Mattei, M.G.; Carrasco, D.; Bra Mol. Cell. Biol. 13, 5195-5205, 1993

Mol. Cell. Biol. 13, 5195-5205, 1993

Mol. Cell. Biol. 13, suppling, and expression of erp, a growth facto
                                              Ś
                                                               US-10-029-345A-108_COPY_538_1443
                                                                                                   Best I
Query
DB:
                                                                                                                      Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                              A;Cross-references: GB:S64851; NID:g409976; PIDN:AAB27882.1; PR;Charles, C.H.; Abler, A.S.; Lau, L.F.
Oncogene 7, 187-190, 1992
A;Title: cDNA sequence of a growth factor-inducible immediate A;Reference number: S24411; MUID:92158357; PMID:1741163
A;Accession: S24411
                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: DNA
A; Residues: 1-367 < NOG>
                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Title: Structure, mapping, and expression of A;Reference number: A54681; MUID:93360956; PMII A;Accession: A54681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          유 성
                                                                                                                                                                                                                                                                                                                  ;Molecule type: mRNA
;Residues: 1-367 <CHA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            유 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         중 음 중
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                              Local S
Y Match:
                       13
                                                43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         158
     LeuArgAlaLeuLeuArgGluGlyAlaAlaGlnCysLeuLeuLeuAspCysArgSerPhe
                      TTGGTGGCTCTGCTGGAAAGTGGAAAGAAGTGCTGCTAATTGATAGCCGGCCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TyrileMetArgTyrMetLysMetGlySerAspAspAlaTyrArgTyrValLysGluArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LysLysCysLeuIleHisCysLeuAlaGlyIleSerArgSerProThrLeuAlaIleSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCC 771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GACTTTATCCCCGAG---TCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ValCysileiysGluAspLysAsnPheMetArgIleProvalAsnAspSerTyrGlnGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ::::::
MetLeuAspAlaLeuAspIleServalValIleAsnLeuSerMetThrCysProLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IleThrLeuileThrProAsnIleTyrLeuGlySerGinIleAspSerLeuAspGluThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8.6e-30
425.00
50.17%
34.32%
26.12%
                                                                (1-906)
                                                                                                    Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-May-1994 #text_change 11-Jun-1999
                                                               x S24411
                                                              (1-367)
                                                                                      367
104
48
129
22
                                                                                                                                                                                                                                                                                                                                                                                            PID:g409977
                                                                                                                                                                                                                                                                                                                                                                                                                                                       factor-inducible
                                                                                                                                                                                                                                                                                                                                                          early
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bravo,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      erp,
                                                                                                                                                                                                                                                                                                                                                        gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nonreceptor
                                                                                                                                                                                                                                                                                                                                                        and
        32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 651
                                                                                                                                                                                                                                                                                                                                                      characteri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   534
                                                                                                                                                                                                                                                                                                                                                                                                                                                         gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   type
                                                                                                                                                                                                                                                                                                                                                                                                                                                         enco
dual specificity phosphoprotein phosphatase (EC 3.1.3.-) NyAlternate names dual specificity phosphatase HVH2 C:Species: Homo sapiens (man) C:CpDate: 19-Oct-1995 #sequence_revision 19-Oct-1995 #text_C;Accession: A56115 R:Guan, K.L.; Butch, E. J. Biol. Chem. 270, 7197-7203, 1995 A;Title: Isolation and characterization of a novel dual salation and characterization of philo:7535768
                                                                                                                                RESULT 3
A56115
                                                                                                                                                                     밁
                                                                                                                                                                                        Ş
                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                 멍
                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                         뫄
                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                    310
                                                                                                                                                                                                                                              826
                                                                                                                                                                                                                                                                       270
                                                                                                                                                                                                                                                                                              766
                                                                                                                                                                                                                                                                                                                         250
                                                                                                                                                                                                                                                                                                                                                706
                                                                                                                                                                                                                                                                                                                                                                         230
                                                                                                                                                                                                                                                                                                                                                                                                   646
                                                                                                                                                                                                                                                                                                                                                                                                                           211
                                                                                                                                                                                                                                                                                                                                                                                                                                                     586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  103
```

```
SerGlnVal
                                     AAGAAGATT
                                                                            GAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAG
                                                      GlnArgArgSerIleileSerProAsnPheSerPheMetGlyGlnLeuLeuGlnPheGlu
                                                                                                                               ATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAA
                                                                                                                                                                                                   AlaGlyGlyArgvalPhevalHisCysGlnAlaGlyIleSerArgserAlaThrileCys
                                                                                                                                                                                                                         LysAlaAspileSerSerTrpPheAsnGluAlaIleAspPheileAspSerIleLysAsp
                                                                                                                                                                                                                                                                                                     TGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCC
                                                                                                                                                                                                                                                                                                                                                |||
|ProAsn---HisPheGluGlyHisTyrGlnTyrLysSerIleProValGluAspAsnHis
                                                                                                                                                                                                                                                                                                                                                                                   CCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                      ArgLysAspMetLeuAspAlaLeuĠlyileThrAlaLeuIleAsnValŚerAlaAsnĊys
                                                                                                                                                                                                                                                                                                                                                                                                                                                      AACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlnGlydiyProvalGluileLeuSerPheLeuTyrLeuGlySerAlaTyrHisAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ThrSerValProAspSerAlaGluSerGlyCysSerSerCysSerThrProLeuTyrAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProGluLeuCysSerLysGlnSerThr-----ProThrGlyLeuSerLeuProLeuSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AlaArgSerThrGlnValPhePheLeuGlnGlyGlyTyrGluAlaPheSerAlaSerCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ccreeccrereaaaeaaaarccacreraercceraccrearricreaeccr-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlyArgLeuLeuAlaGlyAlaTyrHisAlaValValLeuLeuAspGluArgSerAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LeuAspGlyAlaLysArgAspGlyThrLeuAlaLeuAlaAlaGlyAlaLeuCysArgGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTTGCCTCTCTCTCAGAÇTGTTTTÇTÇACTGTACTTCTGGGTAAAÇTG-----GAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ArgArgAlaLysGlyAlaMetGlyLeuGluHisIleValProAsnAlaGluLeuArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGCGAAGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PheAlaPheAsnAlaGlyHisileAlaGlySerValAsnValArgPheSerThrIleVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTGGAATACAATACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATG 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -GGCCAACCCGAATTTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTC
 312
                                   894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        --------TGCTTACCTGTTGCCAACATT------
                                                                                             885
                                                                                                                               289
                                                          309
                                                                                                                                                                                                     269
                                                                                                                                                                                                                                          765
                                                                                                                                                                                                                                                                           249
                                                                                                                                                                                                                                                                                                               705
                                                                                                                                                                                                                                                                                                                                                  229
                                                                                                                                                                                                                                                                                                                                                                                     645
                                                                                                                                                                                                                                                                                                                                                                                                                        210
                                                                                                                                                                                                                                                                                                                                                                                                                                                         585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           52
```

19-Oct-1995 #text_change

24-Apr-1998

4

specific

phosphatase,

HVH2,

□ ::

Kell)

activated

```
A;Status: preliminary; not compared with conceptual translation
A;Molecule type: mRNA
A;Residues: 1-394 <GUA>
A;Residues: 1-394 <GUA>
A;Cross-references: GB:UZ1108
C;Genetics:
A;Genetics:
A;Gene: GDB:DUSP4; HVH2; MKF-2
A;Genes: GDB:DUSP4; HVH2; MKF-2
A;Gross-references: GDB:433893
A;Map position: 8p21-8p11.2
C;Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity (feywords: phosphoprotein; phosphoric monoester hydrolase
F;203-334/Domain: VH1-type dual specificity phosphoprotein phosphatase homology <VH1>
F;280/Active site: Cys (phosphocysteine intermediate) #status predicted
F;286/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-029-345A-108_COPY_538_1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
718
                                          256
                                                                                                                                                                                                                                      217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  115 ACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTG 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    39
                                                                                                                                                                                                                                      ACCCGAATTCTTCCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                GluProLeuAspLeuGlyCysSerSerCysGlyThrProLeuHisAspGlnGlyGlyPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGCCT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PheCysSerLysThrLysAlaLeuAlaAlaIleProProProValProProSerAlaThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTCTGTGAAGGAAAATCCACTCTA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ---AACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SerLeuArgGluAspSerThrValSerLeuValValGlnAlaLeuArgArgAsnAlaGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeuArgSerGlyLeuTyrSerAlaVaiIleVaiTyrAspGluArgSerProArgAlaGlu 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AlaLysGlySerValSerLeuGluGlnIleLeuProAlaGluGluGluValArgAlaArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAACAGGACAAAGTGTTAATTACAGAGCTCATC-----CAGCATTCAGCGAAACATAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AlaGlyTyrIleLeuGlySerValAsnValArgCysAsnThrIleValArgArgArg---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGGAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAAT 114
GTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATC
                                             SerSerTrpPheMetGluAlaIleGluTyrIleAspAlaValLysAspCysArgGlyArg
                                                                                                                                                                                       TTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATT
                                                                                                                                                                                                                                                                                      ATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGAC
                                                                                                                                                                                                                                                                                                                                   ValGluIleLeuProPheLeuTyrLeuGlySerAlaTyrHisAlaAlaArgArgAspMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ArgThrAspIleCysLeuLeuLysGlyGlyTyrGluArgPheSerSerGluTyrProGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuProSerGly---GlyLysCysLeuLeuLeuAspCysArgProPheLeuAlaHisSer
                                                                                          TTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGT
                                                                                                                                         PheGluGlyHisTyrGlnTyrLysCysTleProValGluAspHisHisLysAlaAspTle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.3e-29
423.00
54.52%
33.44%
26.00%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----TGC---TTACCTGTTGCCAACATT---GGGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (1-906) x A56115 (1-394)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              394
100
63
114
22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTCCCTACCTGCATTTCT
                                             275
                                                                                                                                                                                                                                                                                        597
                                                                                                                                                                                                                                                                                                                                                                                   537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       228
                                                                                                                                              255
                                                                                                                                                                                         657
                                                                                                                                                                                                                                         235
                                                                                                                                                                                                                                                                                                                                                                                                                                  196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: GDB:139200
A;Map position: Zq11-Zq11
C;Function:
A,Description: catalyzes the hydrolysis of peptidyl-phosphoserine, -phosphothreonine, an A,Description: catalyzes the hydrolysis of peptidyl-phosphoserine, -phosphothreonine, an C;Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity C;Keywords: nucleus; phosphoprotein; phosphoric monoester hydrolase
C;Keywords: nucleus; phosphoprotein signal
C;Heywords: nucleus; phosphoprotein signal
F;140-160/Region: nuclear location signal
F;180-311/Domain: VH1-type dual specificity phosphoprotein phosphatase homology <VH1>
F;257/Active site: Cys (phosphocysteine intermediate) #status predicted
F;263/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 dual specificity phosphoprotein phosphatase (EC 3.1.3.-) 2 - human N;Alternate names: mitogen-induced nuclear tyrosine phosphatase; phosphatas C;Species: Homo sapiens (man) C;Date: 03-Nov-1995 #sequence_revision 02-Jul-1996 #text_change 11-Jun-1999 C;Accession: A57126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Accession: A57126
R;Rohan, P.J; Davis, P.; Moskaluk, C.A.; Kearns, M.; Krutz
Science 259, 1763-1766, 1993
A;Title: PAC-1: a mitogen-induced nuclear protein tyrosine
A;Reference number: A57126; MUID:93206122; PMID:7681221
A;Accession: A57126
A;Status: nucleic acid sequence not shown
A;Molecule type: mRNA
A;Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Residues: 1-314 <ROH>
A;Cross-references: GB: C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT
A57126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                Ş
                                                                                            밁
                                                                                                                                    Ś
                                                                                                                                                                                         밁
                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-029-345A-108_COPY_538_1443 (1-906) x A57126 (1-314)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               116 HisGluThrArgAlaGlyProThrAlaValTyrPheLeuArgGlyGlyPheAspGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25 GluArgThrLeuLeuLeuAspCysArgProPheLeuAlaPheCysArgArgHisValArg 44
                                                                                                                                                                                                                                                                                                                                                                                   45 AlaAlaArgProValProTrpAsnAlaLeuLeuArgArgArgAlaArgGlyProProAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCCCCACATTTTG 129
                                                                                                                                                                                                                                                                                                                                                                                                                                  GAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATT 894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MetMetLysLysArgValArgLeuGluGluAlaPheGluPheValLysGlnArgArgSer 315
                                                                                            AlaSerValAlaGluLeuArgProAspSerProAlaHisValLeuLeuAlaAlaLeuLeu
                                                                                                                                                                                                                                      GCGAAACATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCC
                                                                                                                                                                                                                                                                                        AlaValLeuAlaCysLeuLeuProAspArgAlaLeuArgThrArgLeuValArgGlyGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTC
                                                                                                                                            CAAGATGTTGCCTCTCTCTCTCAGAC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GB:L11329; NID:g559539; PIDN:AAA50779.1; PID:g292376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3.58e-29
418.00
50.83%
35.97%
25.69%
                                                                                                                                                                                                                                                                                                                                   - TTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCA
                                                                                                                                                                                            -----AlaArgAlaValValLeuAspGluGlySer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length:
                                                                                                                                              -TGTTTTCTCACTGTACTTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    314
109
45
105
44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        334
       135
                                                    384
                                                                                                    115
                                                                                                                                                                                                 95
                                                                                                                                                                                                                                              276
                                                                                                                                                                                                                                                                                             84
                                                                                                                                                                                                                                                                                                                                                                                        64
                                                                                                                                                                                                                                                                                                                                                                                                                                       171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of.
```

Ś

ર્ 뫄 Ş 밁

8 ð 밁 음 중

S 밁 ð 밁 ঠ 밁 S 밁 ঠ 밁 ঠ 밁 ঠ

밁

```
A;Accession: Jacobian A;Accession: A;Molecule type: mRNA
A;Residues: 1.367 <KEY>
A;Cross-references: EMBL:X68277; NID:g29980; PIDN:CAA48338.1; PID:g29981
A;Cross-references: EMBL:X68277; NID:g29980; PIDN:CAA48338.1; PID:g29981
A;Cross-references: EMBL:X68277; NID:g29980; PIDN:CAA48338.1; PID:g29981
A;Cross-references: J.366.3604, 1994
J. Biol. Chem. 269, 3596.3604, 1994
A;Title: Isolation and characterization of a human dual specificity protein.
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Reference number: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A53052; MUID:94148864; PMID:8106404
A;Accession: A5406404
A;Accession: A5406404
A;Accession: A5406404
A;Accession: A5406404
A;Accession: A5406404
A;Accession: A5406404
A;Accession: A5406404
A;Accession: A5406404
A;Accession: A5406404
A;Accession: A5406404
A;Accession: A5406404
A;Accession: A5406404
A;Accession: A5406404
A;Accession: A5406404
A;Accession: A5406404
A;Accession: A5406404
A;Accession:
  A;Cross-references: GDB:136197; OMIM:600714
A,Map position: 5q34-5q34
C.Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity C.Keywords: heat shock; phosphoprotein; phosphoric monoester hydrolase; stress-induced F;181-312/Domain: VH1-type dual specificity phosphoprotein phosphatase homology <VH1>F;258/Active site: Cys (phosphocysteine intermediate) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                        RESULT 5
829090
dual specificity phosphoprotein phosphatase (EC 3.1.3.-) 1 - human
N;Alternate names: protein-tyrosine-phosphatase CL100; protein-tyrosine-phosphatase,
C;Species: Homo sapiens (man)
C;Dete: 25-Feb-1994 #sequence revision 02-May-1994 #text_change 11-Jun-1999
C;Accession: S29090, A53052
R;Keyse, S.M.; Emslie, E.A.
Nature 359, 644-647, 1992
A;Ritle: Oxidative stress and heat shock induce a human gene encoding a protein-tyros
A;Accession: S29090; MUID:93024952; PMID:1406996
A.McCession: S29090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    중 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              중 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGAAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LeuAlaTyrLeuMetGlnSerArgArgValArgLeuAspGluAlaPhoAspbheValLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGCGGATCTCCCGCTCCGCCACCACCATCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MetValGluiieSerAlaTrpPheGlnGluAlaIleGlyPheileAspTrpValLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCGAGTCTCATTTC-------CTGCGTGTGTGTGTGAATGACAGCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AlaCysGiyileThrAlaValLeuAsnValSerAlaSerCysbro------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ileLeubroTyrLeubheLeuGlySerCysSerHisSerSerAspLeuGlnGlyLeuGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGAATGGGATTGGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AFTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AspLysThrSerArgSerAspSerArgAlaProvairyrAspGlnGlyGiyProvalGlu 175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----ACCIGCATTICICAGCCTIGCTTACCITATTGCCAACATT---GGGCCAACCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlnGlyCysCysProAspLeuCysSerGiuAlaProAlaProAlaLeuProProThrGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTCGTTGTTTCCCTGGCCTCTGT----GAAGGAAAATCCACTCTAGTCCCT------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -AsnHisPheGluGlyLeuPheArgTyrLysSerIleProvaiGluAspAsnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    894
                                                                                                                                                                                                                                                                      specificity protein-tyrosine
                                                                                                                                                             NCBIN:143802,
                                                                                                                                                                                                                                                                                                                                                                                                                       encoding a protein-tyrosing
                                                                                                                                                             NCBIN:143804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                543
                                                                                                                                                                                                                                                                        hd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ion
    δ
                                       В
                                                                      Ş
                                                                                                             뮍
                                                                                                                                              Ş
                                                                                                                                                                                          뮍
                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                  DЪ
                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                               뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F;264/Binding site:
  892
                                       292
                                                                          832
                                                                                                               272
                                                                                                                                                  772
                                                                                                                                                                                        252
                                                                                                                                                                                                                           712
                                                                                                                                                                                                                                                                  232
                                                                                                                                                                                                                                                                                                                                                                                                                     193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  223
ATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                33
```

```
US-10-029-345A-108_COPY_538_1443 (1-906) x S29090 (1-367)
AGACCTACTATATCTCCAAACTTCAAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAG
                                                      GlyargvalphevalHisCysGlnAlaGlyTleSerArgSerAlaThrIleCysLeuAla
                                                                                                                                                                                              AAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAAGCCTCCAAT
                                                                                                                                      GGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCC
                                                                                                                                                                        ---HisPheGluGlyHisTyrGlnTyrLysSerIleProvaiGluAspAsnHisLysAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                43 TTGGTGGCTCTGCTGGAAAGTGGAAAAAAGTGCTGCTAATTGATAGCCGGCCATTT 102
                                                                                                                                                                                                                                                              CCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAG
                                                                                                                                                                                                                                                                                             AspMetLeuAspAlaLeuGjyileThrAlaLeuIleAsnvalSerAlaAsnCysProAsn
                                                                                                                                                                                                                                                                                                                       GAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAG 591
                                                                                                                                                                                                                                                                                                                                                  GlyProValGluIleLeuProPheLeuTyrLeuGlySerAlaTyrHisAlaSerArgLys 192
                                                                                                                                                                                                                                                                                                                                                                        GGGCCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAG
                                                                                                                                                                                                                                                                                                                                                                                                            ValProAspSerAlaGluSerGlyCysSerSerCysSerThrProLeuTyrAspGlnGly 172
                                                                                                                                                                                                                                                                                                                                                                                                                                               GTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATT---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ProGluLeuCysSerLysGlnSerThrProMetGlyLeuSerLeuProLeuSerThrSer 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCTGGCCTCTGTGAAGGAAAA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AlaArgAlaAlaGlnvaiPhePheLeuLysGlyGlyTyrGluAlaPheSerAlaSerCys 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CATAAGGTTGACATTGAATGCAGTCAGAAGGTTGTAGTTTTACGATCAAAGCTCCCAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTTGCCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTG-----GAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GlyArgLeuLeuAlaGlyAlaTyrHisAlaValValLeuLeuAspGluArgSerAlaAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LeuAspGlyAlaLysArgAspGlyThrLeuAlaLeuAlaAlaGlyAlaLeuCysArgGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAGCGAAGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ArgArgAlaLysGlyAlaMetGlyLeuGluHisIleValProAsnAlaGluLeuArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTGGAATACAATACATCCÇAÇATTTTGGAAGCCATTAATATCAACTGCTÇCAAGCTTATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LeuArgālaLeuLeuGlyGluArgAlaAlaGlnCysLeuLeuAspCysārgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6.7e-29
415.00
49.50%
33.89%
25.51%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCCACTCTA 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           367
102
47
134
18
                            891
                                                           291
                                                                                                                                                                                                                                     231
                                                                                                                                                                                                                                                                                               212
                                                                                                                                                                                                                                                                                                                                                                                  531
                                                                                                                                                                                                                                                                                                                                                                                                                                          471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              32
```

Ç

```
dual specificity phosphatase (EC 3.1.3.-) 1 - rat

N.Alternate names: protein-tyrosine-phosphatase CL100; protein-tyrosine-phosphatase, non
C;Species: Rattus norvegicus (Norway rat)
C;Date: 07-May-1995 #sequence_revision 21-Jul-1995 #text_change 22-Jun-1999
C;Accession: S52265
R;Muda, M: Schlegel, W: Arkinstall, S.
submitted to the EMBL Data Library, January 1995
A;Description: Pathways regulating CL100 gene expression in pituitary cells.
A;Reference number: S52265
A;Accession: S52265
A;Accession: S52265
A;Accession: S52265
A;Cross-references: EMBL:X84004; NID:g642264; PIDN:CAA58828.1; PID:g642265
A;Cross-references: EMBL:X84004; NID:g642264; PIDN:CAA58828.1; PID:g642265
C;Keywords: phosphoprotein; phosphorotein phosphatase 1; VH1-type dual specificity
C;Keywords: phosphoprotein; phosphorotein phosphatase homology <VH1>
F;258/Active site: Cys (phosphocysteine intermediate) #status predicted
F;264/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best 1
Query
DB:
                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                        밁
                                                                                             S
                                                                                                                                     밁
                                                                                                                                                              হ
                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-029-345A-108_COPY_538_1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Percent Similarity:
Best Local Similaria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     몽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Scores:
                                                        168 LeuTyrAspGlnGlyGlyProValGluIleLeuSerPheLeuTyrLeuGlySerAlaTyr
                                                                                                                                     148
                                                                                                                                                                            418
                                                                                                                                                                                                                   128
                                                                                                                                                                                                                                                                                            108
                                                                                                                                                                                                                                                                                                                                                                                                             268 CAAAGCTCCCAAGATGTTGCCTCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    163 AAGCGAAGGTTGCAA-------CAGGACAAAGTGTTAATTACAGAGCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     312
                                                                                                                                                                                                                                                                                                                                                                         88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                      72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            43
GATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTTAAATGCCAGC
                                                                                                                                     ProLeuSerThrSerValProAspSerAlaGluSerGlyCysSerSerCysSerThrPro
                                                                                                                                                                            ----TCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATT
                                                                                                                                                                                                             PheSerAlaSerCysProGluLeuCysSerLysGlnSerThrProMetGlyLeuSerLeu
                                                                                                                                                                                                                                                     TTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAA-------
                                                                                                                                                                                                                                                                                            AlaLeuCysArgGluAlaArgSerThrGlnValPhePheLeuGlnGlyGlyTyrGluAla
                                                                                                                                                                                                                                                                                                                                AAACTG-----GAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAG
                                                                                                                                                                                                                                                                                                                                                                       GluArgSerAlaAlaLeuAspGlyAlaLysArgAspGlyThrLeuAlaLeuAlaAlaGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ArgArgAlaLysGlyAlaMetGlyLeuGluHisIleValProAsnThrGluLeu---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PheAlaPheAsnAlaGlyHisIleValGlySerValAsnValArgPheSerThrIleVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTGGAATACAATACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuArgAlaLeuLeuArgGluArgAlaAlaGlnCysLeuLeuLeuAspCysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TIGGTGGCTCTGCTGGAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                -----ArgGlyArgLeuLeuAlaGlyAlaTyrHisAlaValValLeuLeuAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6.7e-29
415.00
49.67%
33.99%
25.51%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (1-906) x S52265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (1-367)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         367
104
48
126
28
                    576
                                                          187
                                                                                               516
                                                                                                                                                                            471
                                                                                                                                                                                                                                                                                                                                  381
                                                                                                                                                                                                                                                                                                                                                                         107
                                                                                                                                                                                                                                                                                                                                                                                                               327
                                                                                                                                                                                                                                                                                                                                                                                                                                                    87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                102
                                                                                                                                                                                                                                                       417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     dual specificity phosphatase (EC 3.1.3.-) 2 - mouse

N;Alternate names: mitogen-induced nuclear protein-tyrosine-phosphatase PAC-1
C;Species: Mus musculus (house mouse)
C;Date: 03.Nov-1995 #sequence_revision 03-Nov-1995 #text_change 24-Apr-1998
C;Accession: B57126
C;Accession: B57126
R;Rohan, P.J.; Davis, P.; Moskaluk, C.A.; Kearns, M.; Krutzsch, H.; Siebenlist, U.; Kell,
Science 259, 1763-1766, 1993
A;Title: PAC-1: a mitogen-induced nuclear protein tyrosine phosphatase.
A;Reference number: A57126; MUID:93206122; PMID:7681221
A;Accession: B57126
A;Accession: B57126
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-314 <AROH>
A;Cross-references: GB:L1130
C;Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity [C;Keywords: nucleus; phosphoprotein; phosphorotein phosphatase homology <VH1>
F;257/Active site: Cys (phosphocysteine intermediate) #status predicted
F;267/Active site: Cys (phosphocysteine intermediate) #status predicted
                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity:
Query Match:
DB:
  밁
                              δ
                                                                             밁
                                                                                                               Ś
                                                                                                                                                      ₽
                                                                                                                                                                                    S
                                                                                                                                                                                                                                 뭐
                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
B57126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             á
                                                                                                                                                                                                                                                                                                          US-10-029-345A-108_COPY_538_1443 (1-906) x B57126 (1-314)
                                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                    Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           F;263/Binding site:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                    No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Scores:
                                        217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       267
                                                                                                                                                                                              130 GAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                247 IleLysAspAlaGlyGlyArgValPheValHisCysGlnAlaGlyIleSerArgSerAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 307
                                                                                                                                                        45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      188 HisAlaSerArgLysAspMetLeuAspAlaLeuGlyIleThrAlaLeuIleAsnValSer
  85
                                                                             65
                                                                                                                                                                                                                                   25 GluArgThrLeuLeuLeuAspCysArgProPheLeuAlaPheCysArgSerHisValArg
                                                                                                                                                                                                                                                                       70 GAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCCCCACATTTTG
                                      GCGAAACATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCC
                                                                                                                                                      AlaAlaArgProValProTrpAsnAlaLeuLeuArgArgArgAlaProGlyThrProAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlnPheGluSerGlnVal
  Leu---
                                                                             AlaAlaLeuAlaCysLeuLeuProAspArgAlaLeuArgAlaArgLeuGlyArgGlyGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GACTATGAGAAGAAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ThrIleCysLeuAlaTyrLeuMetArgThrAsnArgValLysLeuAspGluAlaPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTTGTGAAAGAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AlaAsnCysProAsn---HisPheGluGlyHisTyrGlnTyrLysSerIleProValGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           substrate phosphate
                                                                                                                                                                                                                                                                                                                                                         2.27e-28
409.00
51.18%
36.03%
25.14%
                                                                                                                 TTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 312
                                                                                                                                                                                                                                                                                                                                                                                                                              Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                       Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                           Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (Arg) #status
  AlaArgAlaValValLeuAspGluSerSer
                                                                                                                                                                                                                                                                                                                                                       314
107
45
113
32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             predicted
    95
                                      276
                                                                             84
                                                                                                                   216
                                                                                                                                                                                              173
                                                                                                                                                                                                                                     44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             226
```

Kell)

```
A;Status; preliminary
A;Status; preliminary
A;Molecule type; mRNA
A;Residues; 1-393 cMIS>
C;Superfamily; dual specificity phosphoprotein phosphatase 1; VH1-type c;
C;Keywords; phosphoprotein; phosphoric monoester hydrolase
F;202-333/Domain; VH1-type dual specificity phosphoprotein phosphatase ;
F;279/Active site: Cys (phosphocysteine intermediate) #status predicted
F;285/Binding site: substrate phosphate (Arg) #status predicted
                                                             Percent Similarity:
Best Local Similarity:
                                                                                                                   Score:
                                 Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 8
A56947

RESULT 8
A56947

A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947

RESULT 8
A56947
                                                                                                                                                                                                                                                                                                                                                                    R;Misra-Press, A.; Rim, C.S.; Yao, H.; Roberson, M.S.; Stork, P.J.S.
J. Biol. Chem. 270, 14587-14596, 1995
A;Title: A novel mitogen-activated protein kinase phosphatase. Structure, A;Reference number: A56947; MUID:95301550; PMID:7782322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATT 894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerHisArgValArgLeuAspGluAlaPheAspPheValLysGlnArgArgGlyValIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ValhisCysGlnAladlyIleSerArgSerAlaThrileCysLeuAlaTyrLeuIleGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TrpPheGlnGluAlaIleSerPheIleAspSerValLysAsnSerGlyGlyArgValLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlyLeuPheHisTyrLysSerIleProvalGluAspAsnGlnMetValGluIleSerAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AlaCysClyileThrAlaValLeuAsnValSerAlaSerCysProAsn---HisPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IleLeuProTyrLeuTyrLeuGlySerCysAsnHisSerSerAspLeuGlnGlyLeuGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTCTTCCCAATCTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AlaGluAsnSerAsnSerAspProArgValProlleTyrAspGlnGlyGlyProValGlu 175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlnThrTyrCysProAspLeuCysSerGluAlaProAlaGlnAlaLeuProProAlaGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCTCGTTGTTTCCCTGGCCTCTGT----GAAGGAAAATCCACTCTAGTCCCT------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HisGluMetArgGlyGlyProThrThrValCysPheLeuArgGlyGlyPheLysSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AlaServaiThrGlubeuProProAspGlyProAlaHisLeubeuLeuAlaAlabeuGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAAGAIGTIGCCICTCTCTCTCAGACIGTTTTCTCACTGTACTTCTGGGTAAACIGGAG
                 1.49e-25
377.50
48.69%
31.05%
23.20%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -ACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATT----GGGCCAACCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ----AACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTC
                       Length:
Matches:
Conservative:
Mismatches:
Indels:
     Gaps:
393
95
54
124
33
                                                                                                                                                                                                                                                                   1; VH1-type dual
                                                                                                                                                                                                                    homology <VH1>
                                                                                                                                                                                                                                                                                                                                                                                                             expression,
                                                                                                                                                                                                                                                                   specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          115
                                                                                                                                             뫄
                                                                                                                                                                                   Š
                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                               Ś
```

```
RESULT 9
138990
dual specificity phosphoprotein phosphatase (EC 3.1.3.-) 5 - human
N;Alternate names: dual specificity phosphatase B23; dual-specificity phosphatase
C:Species: Homo sapiens (man)
C;Date: 16-Feb-1996 #sequence_revision 01-Mar-1996 #text_change 11-Jun-1999
                                                                                                                                                                                                                                      뭉
                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                              뫄
                                                                                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                                                                                     Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뭕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-029-345A-108_COPY_538_1443 (1-906) x A56947 (1-393)
                                                                                                                                                   877
                                                                                                                                                                              308
                                                                                                                                                                                                        817
                                                                                                                                                                                                                                     288
                                                                                                                                                                                                                                                              757
                                                                                                                                                                                                                                                                                                                                              248
                                                                                                                                                                                                                                                                                                                                                                                                                                                           209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      226
                                                                                                                 GlnPheGluSerGlnVal
                                                                                                                                             GACTATGAGAAGAAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        166 CGAAGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACAT
                                                                                                                                                           PhevalLysGlnArgArgSerIleIleSerProAsnPheSerPheMetGlyGlnLeuLeu
                                                                                                                                                                          TTTGTGAAAGAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTG
                                                                                                                                                                                                                ThrileCysLeuAlaTyrLeuMetMetLysLysArgValArgLeuGluGluAlaPheGlu
                                                                                                                                                                                                                                     ACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGA
                                                                                                                                                                                                                                                                       vallysaspCysargdjyargvalleuvalHisCysGlnAlaGlyIleSerArgSerAla
                                                                                                                                                                                                                                                                                      GCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  56 AlaHisSerAlaGlyTyrileArgGlySerValAsnValArgCysAsnThrIleValArg
                                                                                                                                                                                                                                                                                                                                                      GACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                 SerAspCysProAsn---HisPheGluGlyHisTyrGlnTyrLysCysIleProValGlu
                                                                                                                                                                                                                                                                                                                           AspAsnHisLysAlaAspileSerSerTrpPheMetGluAlaIleGluTyrIleAspAla
                                                                                                                                                                                                                                                                                                                                                                                                                                       HisAlaAlaArgArgAspMetLeuAspAlaLeuGiyileThrAlaLeuLeuAsnValSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     46
                                                                                                                                                                                                                                                                                                                                                                                                            TATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LeuHisAspGlnGlyGiyProValGluIleLeuProPheLeuTyrLeuGlySerAlaTyr 208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ProValProbroSerThrAsnGluSerLeuAspLeuGlyCysSerSerCysGlyThrPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCTTGCTTACCTGTTGCCAACATT--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SerGluTyrÞroGluPheCysSerLysThrLysAlaLeu-----AlaAlaileProPro 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AsnAlaGiuArgThr-----AspIleCysLeuLeuLysGiyGiyTyrGluArgPheSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGGTTTGCTGAGTTCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AlaArgArgGluSerProGlyGlyGlnHisSerValAlaGlyArgAlaAlaLeuArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGTTGTTTCCCTGGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAAAGCTCCCAAGATGTTGCCTCTCTCTCTÇAGACTGTTTTCTCACTGTAÇTTCTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GluvalargProCysAlaLeuAlaSerThrArgLeuŚerSerSerThrMetThrGlnPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGGTT-----GACATTGATTGCAGTCAGAAGGTTGTAGTTTACGAT 267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Argarg---AlaLysGlySerVaiSerLeuGluGlnIleLeu-----ProAlaGluGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GIGGCICTGCIGGAAAGIGGAAAAAAGIGCTGCIAATIGATAGCCGGCCAITITGIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAATACAATACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuGlyLeuLeuSerGlyGly------LysCysLeuLeuLeuAspCysArgProPheLeu
                                                                                                                                            894
                                                                                                                                                            327
                                                                                                                                                                                       876
                                                                                                                                                                                                                                            816
                                                                                                                                                                                                                                                                                                 756
                                                                                                                                                                                                                                                                                                                                                         696
                                                                                                                                                                                                                                                                                                                                                                                 247
                                                                                                                                                                                                                                                                                                                                                                                                            636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          55
```

Ç

```
G;Accession: 138890; A55313

R;Kwak, S.P.; Dixon, J.E.

J. Biol. Chem. 270, 1156-1160, 1995

A;Title: Multiple dual specificity protein tyrosine phosphatases are expressed and regul
A;Reference number: A55432; MUID:95138103; PMID:7836374

A;Accession: 13880

A;Molecule type: mRNA
A;Restdues: 1-384 <RES>
A;Cross-references: EMBL:U16996; NID:9642012; PIDN:AAB06261.1; PID:9642013

A;Accession: 13880

A;Cross-references: EMBL:U16996; NID:9642012; PIDN:AAB06261.1; PID:9642013

A;Cross-references: EMBL:U16996; NID:9642012; PIDN:AAB06261.1; PID:9642013

A;Cross-references: EMBL:U16996; NID:9642012; PIDN:AAB06261.1; PID:9642013

A;Cross-references: EMBL:U16996; NID:9642012; PIDN:AAB06261.1; PID:9642013

A;Cross-references: GBV:712-70, PI: Michieli, P.; Kelley, C.A.; Aaronson, S.A.

A;Restdues: 1-8, GHV, 12-70, PI: MICHIELI, PI: MICHIELI, PI: MICHIELI, PI: MICHIELI, PI: MICHIELI, PI: MICHIELI, PI: MICHIELI, PI: MICHIELI, PI: MICHIELI, PI: MICHIELI, PI: MICHIELI, PI: MICHIELI, PI: MICHIELI, PI: MICHIELI, PI: MICHIELI, PI: MICHIELI, PI: MICHIELI, PI: MICHIELI, PI: MICHIELI, PI: MICHIELI, PI: MICHIELI, PID:961902

A;Cross-references: GB:U15932; NID:9606971; PIIN:AAA64693.1; PID:9606972

A;Cross-references: GDB:J89447

A;Map position: 10925-10925

A;Cross-references: GDB:J89447

A;Map position: U1925-10925

A;Cross-references: GDB:J89447

A;Map position: V11-type dual specificity phosphorotein phosphatase 1; V11-type dual specificity phosphorotein phosphatase homology <VH1>
F;263/Active site: Cys (phosphocysteine intermediate) #status predicted

F;269/Binding site: Substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                 ર્
                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                         ঠ
                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                          밁
                                                                                                  S
                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-029-345A-108_COPY_538_1443 (1-906) x I38890 (1-384)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Similarity:
                        454
                                                                                                                                                                                            367
                                                                                                                                                                                                                                       107
                                                                                                                                                                                                                                                                                                                                                                   256
                                                                                                                                                                                                                                                                                                                             87
                                                                                                                                                                                                                                                                                                                                                                                                                67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 55 AlaArgGlyGlyAlaVal------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15
TTACCTGTTGCCAACATT---
                                                              SerGlnGluLysIleGluSerGluArgAlaLeuIleSerGlnCysGlyLys-----
                                                                                                                                                                                          GGTGGGTTTGCTGAGTTCTCTCGTTTTCCCTGGCCTCTGT---------
                                                                                                                                                                                                                                ValValLeuThrSerLeuLeuAlaCysLeuProAlaGlyProArgValTyrPheLeuLys 126
                                                                                                                                                                                                                                                                           GTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCT-----GTTCACCTGCTTGCA
                                                                                                                                                                                                                                                                                                                                                                 ProAspGluAlaAlaArgAlaArgLeuLeuGlnGluGlyGlyGlyGlyValAlaAlaVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACATTGATTGCAGTCAG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AlaAlaSerAsnValArgGlySerLeuAsnValAsnLeuAsnSerValValLeuArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AATACAŢĊĊCACATTTTGGAAGCCATŢĄĀŢĀŢĊŖĄĊŢĠĊŢĊĊAĀĠĊŢŦĀŢĠĀĀĠĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GlyGlyTyrGluThrPheTyrSerGluTyrProGluCysCysValAspValLysProIle
                                                                                                                                                                                                                                                                                                                      ValValLeuAspGlnGlySerArgHisTrpGlnLysLeuArgGluGluSerAlaAlaArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGCTGGAAAGTGGAAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAAATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3.44e-23
351.00
46.25%
29.38%
21.57%
                                                                                                       -GAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ----SerAlaArgTyrValLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----AAGGTT
                      GGGCCAACCCGAATT
                                                                                                                                                                                                                                                                                366
                                                                                                                                                                                                                                                                                                                        106
                      486
                                                              163
                                                                                                         453
                                                                                                                                                                                            408
                                                                                                                                                                                                                                                                                                                                                                                                              86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                        255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 hypothetical protein DKFZp43401321.1 - human (;Speciles: Homo sapiens (man) (;C;Speciles: Homo sapiens (man) (;C;Date: 04-Feb-2000 #sequence_revision 04-Feb-2000 #text_change 21-Jun-2002 (;Accession: T46405 R;Blum, H.; Bauersachs, S.; Mewes, H.W.; Gassenhuber, J.; Wiemann, S.
  片
                               5
                                                                                   吊
                                                                                                                         S
                                                                                                                                                                        밁
                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-references: EMBL:AL137704 A;Experimental source: adult test C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Accession: T46405
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-303 <AAA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      submitted to the Protein St
A, Reference number: Z23034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ŗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                                                                                                        US-10-029-345A-108_COPY_538_1443 (1-906) x T46405
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DKFZp43401321.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scores
                                        428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      183
                                                                                                                                                                                                                                                                                                    266 ATCAAAGCTCCCAAGATGTTGCCTCTCTCTCTTCAGACTGTTTTCTCACTGTACTTCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         164
                                                                                   60
  80
                                                                                                                                                                                                                                                           29 ValArgAlaProSerMet-AlaLeuGlyValSerGlnLeu-
                                                                                                                                                                                                                 GTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCT
                                        TCCCTACCTGCATTTCTCAGCCT-----
alProProSerAlaThrGluProLeuAspLeuGlyCysSerSerCysGlyThrProLeuH 100
                                                                                   erSerGluTyrProGluPheCysSerLysThrLysAlaLeuAlaAlaIleProProProV
                                                                                                                             CTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCTA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ProAsnPheGlyPheMetGlyGlnLeuLeuGlnTyrGluSerGluIleLeuProSerThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HisCysGluAlaGlyIleSerArgSerProThrIleCysMetAlaTyrLeuMetLysThr 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HisLeuHisTyrLysTrpIleProValGluAspSerHisThrAlaAspIleSerSerHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LeuHisIleThrAlaLeuLeuAsnValSerArgArgThrSerGluAla---CysMetThr
                                                                                                                                                                    ----AlaGlyArgSerArgCysLeuCysSerGluSer-GlnGlyGlyTyrGluArgPheS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCANACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LysGlnPheArgLeuLysGluAlaPheAspTyrIleLysGlnArgArgSerMetValSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PheGlnGluAlaIleAspPheIleAspCysValArgGluLysGlyGlyLysValLeuVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCC 606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ---ProValValAsnValSerTyrArgProAlaTyrAspGlnGlyGlyProValGluIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTGGACAMATCAGTAGATTTCATTGAGAMAGCAMAAGCCTCCAATGGATGTGTTCTAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeuProPheLeuTyrLeuGlySerAlaTyrHisAlaSerLysCysGluPheLeuAlaAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTTCCCAATCTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAG
                                                                                                                                                                                                                                                                                                                                                                                            325.00
52.65%
35.84%
19.98%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7.05e-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence Database,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          testis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        clone DKFZp43401321
                                                                                                                                                                                                                                                                                                                                                                                                         Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             January 2000
                                                                                                                                                                                                                                                                                                                                               (1-303)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               J.; Wiemann,
                                                                                                                                                                                                                                                                                                                                                                                            303
38
38
26
                                        rec---TTACCTETTE
                                                                                                                                ----G
                                          463
                                                                                     80
                                                                                                                                427
                                                                                                                                                                        60
                                                                                                                                                                                                                 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                221
```

----- 396

357

85

65

```
RESULT 11
T32494
hypothetical protein C05B10.1 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #text_change 29-C;Accession: T32494
R;Gelsel, C.; Wamsley, P.
submitted to the EMBL Data Library, December 1997
A;Description: The sequence of C. elegans cosmid C05B10.
A;Accession: T32494
A;Cerence number: Z21178
A;Accession: T32494
A;Cerence number: T32194
                                                                                                                                                                    US-10-029-345A-108_COPY_538_1443 (1-906) x T32494 (1-365)
                                                                                                                                                                                                                                                         Percent Similarity:
                                                                                                                                                                                                                                                                                                 Alignment Scores:
                                                                                                                                                                                                                                                                                                                   A;Map position: 4
A;Introns: 22/2; 46/2; 74/3; 163/2;
                                                                                                                                                                                                                                                                                         Pred.
                                                                                                                                                                                                                                                                                                                                                     A;Gene: CESP:C05B10.1
                                                                                                                                                                                                                                                                                                                                                              A;Cross-references: EMBL;AF036685; PIDN:AAB88308.1; GSPDB:GN00022; CESP:C05B10.1
A;Experimental source: strain Bristol N2; clone C05B10
                                                                                                                                                                                                                                                                                                                                                                                                           A; Molecule type: DNA
A; Residues: 1-365 < GEI>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ф
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                      No.:
                                                                                                   79
                                                                                                                                                           19
                                                                                                                                                                                                                                        Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         239 heGluSerGlnVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                179
                       AATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTACA 198
                                                 IleValLeuAspCysArgSer------AsnGlyAspSerValLysArgAlaAsn
                                                                            GlyGluGluileSerAlaGluGlnPheAsnArgIlePheHisGlu-----ArgAsnVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  159 snHisLysAlaAspileSerSerTrpPheMetGluAlaIleGluTyrIleAspAlaValL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         581
                                                                                                                                     GGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAAAGTGGAACGGAAAAAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGAGAAGAAGATT 894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGAAAGAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               allysGlnArgArgSerIleileSerProAsnPheSerPheWetGlyGlnLeuLeuGlnP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     leCysLeuAlaTyrLeuMetMetLysLysArgValArgLeuGluGiuAlaPheGluPheV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTG 820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ysAspCysArgdiyArgValieuValHisCysGlnAladiyileSerArgSerAlaThri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCA 760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        spCysProAsn---HisPheGluGlyHisTyrGlnTyrLysCysIleProVaiGluAspA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTTGTGAATGACA 640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              laAlaArgArgAspMetLeuAspAlaLeuGlyIleThrAlaLeuLeuAsnValSerSerA 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.16e-17
289.00
45.79%
24.92%
17.76%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         243
                                                                                                                                                                                                                                                                                                                   204/2;
                                                                                                                                                                                                                 Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                   248/1;
                                                                                                                                                                                                                                                                                                                  287/2
                                                                                                                                                                                                    365
80
67
134
40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         29-Oct-1999
                                                    45
                                                                                                           29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             580
                                   Protein tyrosine phosphatase - fission yeast (Schizosaccharomyces pombe)
C;Species: Schizosaccharomyces pombe
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 03-Dec-1999
C;Accession: T39698
R;Wood, V.; Skelton, J.; Churcher, C.M.; Rajandream, M.A.; Barrell, B.G.
submitted to the EMBL Data Library, July 1999
A;Accession: T39698
A;Accession: T39698
A;Status: preliminary; translated from GB/EMBL/DDBJ
A.Mological Proc. Num
             A; Cross-references:
                           A; Molecule type: DNA
A; Residues: 1-330 < WOO>
                                                                                                                                                                                        RESULT 12
T39698
                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                      뮹
                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                      문
                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                   뮍
                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                           321 Leu 321
                                                                                                                                                                                                                                                         892
                                                                                                                                                                                                                                                                                                                                                                                                   261
                                                                                                                                                                                                                                                                                                                                                                                                                                     :::
241 AsnLeuThrLysPhePheProGluAlaIleSerPheIleAspAspAlaArgArgAsnAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      595 ---GACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            535 CTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    146 ProdiyGlnAlaSerGlyGlnGln------AlaSerSerGlyProLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               298 TCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATT
                                                                                                                                                                                                                                                                  GAGCCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        86 IleProGlyAspSerGluGinAspGluGlnLeuSerAlaAlaLeuAlaArgAsnLeuLys 105
                                                                                                                                                                                                                                                                                                                        TyrLeuMetLysThrGluMetCysThrLeuAspSerAlaTyrGluTrpValGlnLysArg
                                                                                                                                                                                                                                                                                                                                             SerAlaCysLeuvalHisCysLeuAlaGlyIleSerArgServalThrileCysLeuAla
                                                                                                                                                                                                                                                                                                                                                                                                   GGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCGCCTCCGCCACCATCGCTATCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         46
                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAAT 711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PheGluGluAspProAsnMetArgTyrLeuArgIleSerAlaAspAspAsnAlaSerHis 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ValLeuLysLysTyrSerIleSerHisValIleAsnValThrSerAsnLeuProAsnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ProvalLysLeuThrAsnPheLeuTyrLeuGlyAsnAlaGluThrAlaLysAsnArgAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              As {\tt nLeuAsnGlnLeuArgLeuGluGlyGluAspGlnGlyGlyLysGlnArgAlaGluPhe}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCTGTTGCCAACATTGGG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProThrLeuArgAspAlaAlaAspGluAsnTrpAsnThrThrPheGlnMetAsnSerMet 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGCTTGCAGGTGGGTTTGCTGAGTTCTCT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerAsnHisTyrArgHisPheValLeuGlyGluProValLysThrLeuLeuserGlnPhe 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ThrValProAspLeuLysAspLeuAsnAsnSerProAspGlnCysProGluValLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           :::
||||:::::||||||||
ArgLeuArgLeuProAlaLeuLeuGlnArgArgLeuMetGlyGlySerMetArgLeuSer
EMBL:AL109652; PIDN:CAB51765.1; GSPDB:GN00067
```

891 300 280 771 260

594 200 534 180 474 160 456

Ś

Ş 밁 Ś

١,

27

```
A;Status: preliminary; translated A;Molecule type: DNA A;Residues: 1-186 <FUL>
                                                                                                                                                                                                                                                                                                                                      A;Description: The sequence A;Reference number: S69020 A;Accession: T16056
                                                                                                                                                                                                                                                                                                                                                                        submitted to the EMBL Data Library, November 1995 A;Description: The sequence of C. elegans cosmid F13D11
                                                                                                                                                                                                                                                                                                                                                                                                                              hypothetical protein F13D11.3 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #te: C;Accession: T16056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Experimental source: strain 972h-; cosmid c17A3 c;Genetics: A;Gene: pi041 A;Map position: 2
                                                                                                                                                                                                                                                                                                                                                                                                               R; Fulton,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ঠ
ફ
                                                                                                                                                                                                                                                                    A; Cross-references: EMBL: U40939;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match:
DB:
                                                                                                                                                                            Alignment Scores:
                                                                                                                                                                                                                 A;Introns: 30/3; 57/3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-029-345A-108_COPY_538_1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
                               US-10-029-345A-108_COPY_538_1443 (1-906) x T16056
                                                                                                        Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Alignment Scores:
                                                                                                                                                                                                                                  Gene: CESP:F13D11.3
                                                                                                                                                                                                                                                 Genetics:
                                                                                       Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    127
 478 ACCCGAATTCTTCCCAATCTTTATCTT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                598 TTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          478 ACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    68 ThrSerAspLysGlyIleAspTyrThrLeuSerAlaMetSerIleAsnProAsnLeuSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      48 SerGluIleSerLysAsnLeuTyrIleSerSerTrpLysThrAlaSerGluLeuValSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MetLysGluAsnAsnTrpAsnThrGluGluAlaLeuSerHisIleAsnGluArgArgSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ValLeuValHisCysPheAlaGlyIleSerArgSerValThrLeuValAlaAlaTyrLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuGlnTyrPheGluLysSerAsnLysPheIleAlaPheAlaLeuSerLysAsnAlaLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAAGCCTCCAATGGATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ---ValProGluGlnHisLeuTrpLeuGlnIleGluAspSerSerSerGlnAsnIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGAC
                                                                                                                                                                                                                 85/3; 125/3; 172/3
                                                                                 9.46e-12
222.50
58.16%
36.17%
13.68%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8.01e-12
223.50
52.59%
39.26%
13.74%
                                                                                                                                                                                                                                                                    NID:g1072175; PID:g1072176; PIDN:AAA81700.1; CESP:F13D1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (1-906) x T39698 (1-330)
                                                                                                                                                                                                                                                                                                                      from GB/EMBL/DDBJ
                                                                                   Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels:
 -GGCTGCCAGCGAGATGTCCTCAAC 528
                                   (1-186)
                                                                                                                                                                                                                                                                                                                                                                                                                                              #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  330
53
18
63
                                                                    186
31
30
31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                  23-Mar-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          67
                                                                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Reference number: Z19415
A;Accession: T21380
A;Status: preliminary; translated
A;Molecule type: DNA
A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           hypothetical protein F26A3.4 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999 C;Accession: T21380 R;McMurray, A.
                  밁
                                                  S
                                                                                       밁
                                                                                                                     Ś
                                                                                                                                                          밁
                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                              A; Gene: CESP: F26A3.4
A; Map position: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Experimental source: clone F26A3 C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Residues: 1-226 <WIL>
A;Cross-references: EMBL:Z78419; PIDN:CAB01700.1; GSPDB:GN00019; CESP:F26A3.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            submitted to the EMBL Data A; Reference number: Z19415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
T21380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                              US-10-029-345A-108_COPY_538_1443 (1-906) x T21380 (1-226)
                                                                                                                                                                                                                                                                                                                                                                            Alignment
                                                                                                                                                                                                                                                                                                                                                                                                           A; Introns: 117/2; 150/3; 186/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                          Score:
                                                                                                                                                                                                                                                                                                                                                           Pred. No.:
                                                                                                                      538 ATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            889 AAG 891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           126 ValArgProIleIleSerProAsnIleGlyPheTrpArgGlnMetIleAspPheGluLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                829 AAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  649 GAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       589 AAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              529 AAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCA
                                                                                       34
                                                                                                                                                            15 SerGluIleValProGlyLeuPheIle---CysGlyValSerAlaLeuSerLysAspGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        146 Gln 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      86 GlyHisAsnThrValIleTyrCysAlaAlaGlyValSerArgSerAlaThrLeuThrIle
                  54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               66 AlaLysIleThrGlnTyrPheGluProValValLysTyrIleGluAspAlaLysGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12
                                                    TTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATT 657
                                                                                                                                                                                               ACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTG
                SerLeuGlyAspIleGlnArgThrLysLeuTrpLeuGluAspThrProGlnThrTyrIle
                                                                                       MetLysLysHisLysIleThrHisIleIleAsnAlaThrThrGluValProAsnLeuArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |||:::::: ||||:::|||
| ThrGlnValArgProHi8LeuPheLeuAlaGlyTyrGlyCy8----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LysPro-----IleLysGlyLeuAspArgIleGluValProValAspAspAsnThrLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ProSerLeuLeuLysGlnTyrAsnileThrHisGlyValAspCysThrAsnLeuLysThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ::
                                                                                                                                                                                                                                                                     7.48e-11
212.50
58.57%
33.57%
13.06%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Library,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            August 1996
                                                                                                                                                                                                                                                                                    Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                  Gaps:
                                                                                                                                                                                                                                                                                                                                        Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                    226
47
35
1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----IleThr
```

145 888 125 828 105 768 85 708 65 648 47

, pp 04	6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	Alignment Pred. No.: Score: Percent Si Best Local Query Matc DB: US-10-029-	T1891 hypotl hypotl C;Spec C;Spec C;Acce R;Lloy submit A;Refe A;Resi A;Map A;Expec C;Gene A;Gene A;Map A;Intr	SUI
25 1 6 5 8	466 AACATTGGGCCAACCCGAATCTTTCCCAATCTTTATCTTGGCTGCCAG 513	nment Scores: 1.91e-10 Length: 272 e: 208.00 Matches: 49 ent Similarity: 54.05% Conservative: 31 Local Similarity: 33.11% Mismatches: 62 Y Match: 12.78% Indels: 62 Gaps: 3 J-029-345A-108_COPY_538_1443 (1-906) x T18915 (1-272)	het cie e: es: es: es: es: es: es: es: es: es:	658 TIGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGT 717

```
Qy 874 CTGGACTATGAGAAGAAGATTAAG 897

:::||||||||||||

Db 142 ValAspTyrGluLysArgLeuArg 149
```

Search completed: June 21, 2004, 12:41:55 Job time : 21.7715 secs

ঙ

```
Command line parameters:

-MODEL_frame+ n2p.model -DEV=xlp
-Q-/cgng_1/USPT0_spool_p/US10029345/runat_21062004_122815_4177/app_query.fasta_1.3278
-Q-/cgng_1/USPT0_spool_p/US10029345/runat_21062004_122815_4177/app_query.fasta_1.3278
-DB=Sw168Prot_42-OFPMT=fastan -SUFFIX=rsp-MINMATCH=0.1 -LOOPCL=0 -LOOPEXT=0
-UNITS=blts -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi -LIST=45
-DCCALIGN=15 -MODE=LOCAL
-DCCALIGN=200 -THR_SCORE-pct -THR_MXA=100 -THR_NIN=0 -ALIGN=15 -MODE=LOCAL
-OUTFMT=pto -NORM=ext -HEAPSIZE=500 -MINLEN=0 -MAXLEN=2000000000
-USER=US10029345_QCN_1_3_3 @runat_21062004_122815_4177 -NCPU=6 -ICPU=3
-NO_MMAp_-LARGEQUERY -NEG_SCORES=0 -WAIT -DSPBLOCK=100 -LONGLOG
-DEV_TIMEOUT=120 -WARN_TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPOP=6
-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  92
        Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     멂
                                                     468
467.5
462.5
450
450
431
427
423.5
418
415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score
                                                                                                                                                                                                                                                                                                                                                                 1552
988
985
469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein search, using frame_plus_n2p model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Xgapop 10.0,
Ygapop 10.0,
Fgapop 6.0,
Delop 6.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-029-345A-108_COPY_538_1443
1627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                141681 seqs, 52070155 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               June 21, 2004, 12:28:21 ; Search time 9.52534 Seconds
     \begin{array}{c} 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 228. \\ 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SwissProt_42:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         atggcccatgagatgattgg.....agaagattaagaaccagact 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Copyright
     483
381
381
381
381
375
375
394
395
314
318
318
318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Xgapext
Ygapext
Fgapext
Delext
DUS4 CHICK
DUS4 HUMAN
DUS1 MOUSE
DUS4 RAT
DUS2 HUMAN
DUS1 HUMAN
DUS1 RAT
DUS2 MOUSE
DUS9 HUMAN
                                                                                                                                                                                                                                                           DUS6_MOUSE
                                                                                                                                                                                                                                                                                                                                         DUSG_HUMAN
DUS8_HUMAN
DUS8_MOUSE
DUSA_HUMAN
DUSA_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IJ
                                                                                                                                                                                                                                         VHP1
                                                                                                                                                                                                                                                                                                                 DUS6_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SUMMARIES
                                                                                                                                                                                                                                         CAEEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      . . . . . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (without alignments)
9905.280 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   283362
                                                                                                                                                                                                                                                                                                                                                                                       Q9by84 homo 1
Q13202 homo 1
Q09112 mus m
                                                                                                                                                                                Q9y6w6
Q9ess0
Q16828
Q9dbb1
Q9dbb1
Q64346
Q10038
Q10038
Q19pw71
Q19pw71
                             P28562
Q64623
Q05922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Description
                                                                                                           Q05923
                                                                                                                                                                P28563
                                                                                                                                                                                                                                   rattus norv
                                                                                                                                                                                   gallus gall
homo sapien
                                                        homo sapien
rattus norv
                                  mus musculu
                                                                                                                                     rattus
                                                                                                                                                                mus musculu
                                                                                                                                                                                                                                                                                                                 homo sapien
                                                                                                                                                                                                                                                                                                                                         mus musculu
                                                                                                                                                                                                                                                                                                                                                                                            mus musculu
                                                                                                                                                                                                                                                                                                                                                                                                                       homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                            sapien
                                                                                                           sapien
                                                                                                                                                                                                                                                                                                                                                                 sapien
                                                                                                                                norv
```

ALIGNMENTS

RESULT 1 DUSG_HUMAN DUSG_HUMAN STANDARD; PRT; 665 AA. Q9BY84; Q9C0G3; 28-FEB-2003 (Rel. 41, Created) 28-FEB-2003 (Rel. 41, Last sequence update) 10-OCT-2003 (Rel. 42, Last annotation update) Dual specificity protein phosphatase 16 (EC 3. (Mitogen-activated protein kinase phosphatase MEDLINE=21082932; PubMed=11214970; Nagase T., Kikuno R., Hattori A., Kondo Y., Okumura K., Ohara O.; "Prediction of the coding sequences of unidentified human genes. XII The complete sequences of 100 new cDNA clones from brain which code Masuda K., Shima H., Watanabe M., Kikuchi "MKP-7, a novel mitogen-activated protein functions as a shuttle protein.", J. Biol. Chem. 276:39002-39011(2001). Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates; phosphatase 7) (MKP-7). DUSP16 OR MKP7 OR KIAA1700. TISSUE=Brain; SEQUENCE FROM N.A. MEDLINE=21486429; PubMed=11489891; SEQUENCE FROM N.A. NCBI_TaxID=9606; Homo sapiens (Human) Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo. K.; kinase phosphatase, 1.1.3.48) 3 7) (MAP H(2)0 = protein(EC 3.1.3.16) kinase

This SWISS-PROT entry is copyright. It is produced through a collaboration

```
Alignment |
Pred. No.:
Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best I
Query
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-029-345A-108_COPY_538_1443 (1-906) x DUSG_HUMAN (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R HSSP, Q16528; 1MXP.

R Genew; HGNC:17909; DUSP16.

R MIM; 607175; ---
R GO; GC:0005737; C::ytoplasm; TAS.
GO; GC:0005737; C::ptoplasm; TAS.
R GO; GC:0005737; C::ptoplasm; TAS.
R GO; GC:0005634; C::nucleus; TAS.
R GO; GC:00045204; P::protein phosphatase activity;
R GO; GO:00045209; P::Leptomycin B-sensitive MAPK; TAS.
R GO; GO:0045209; P::Leptomycin B-sensitive MAPK; TAS.
R GO; GO:0045204; P::MPK nucleus export; TAS.
R InterPro; IPR000340; DS phosphatase.
InterPro; IPR000343; MAPK phosph.
InterPro; IPR0001763; Rhodanese-like.
InterPro; IPR000387; TYR_phosphatase.
R Pfam; PF00782; DSPc; 1.
R Pfam; PF00782; DSPc; 1.
R Pfam; PF00781; Rhodanese; 1.
R Pfam; PF00781; Rhodanese; 1.
R Pfam; PF00581; Rhodanese; 1.
R PROSITE; PS00383; TYR_PHOSPHATASE.
R SMART; SM00450; RHOD; 1.
R PROSITE; PS00383; TYR_PHOSPHATASE_1; 1.
R PROSITE; PS00383; TYR_PHOSPHATASE_1; 1.
R PROSITE; PS00383; TYR_PHOSPHATASE_1; 1.
R PROSITE; PS00383; TYR_PHOSPHATASE_1; 1.
R PROSITE; PS00383; TYR_PHOSPHATASE_1; 1.
R PROSITE; PS00383; TYR_PHOSPHATASE_1; 1.
R PROSITE; PS00383; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS00383; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS00384; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS0054; TYR_PHOSPHATASE_DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; AB052156; BAB40814.1; ...
EMBL; AB051487; BAB21791.1; ALT_INIT.
HSSP; Q16828; IMP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                            301
                           101
                                                                                                                                   241
                                                                                                 81
                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                           121
                                                                                                                                                                      61
                                                                                                                                                                                                                                            41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Scores:
                                                                                                                                                                                                                                                                                                                 21
                                                                                                                                                                                                                                                                                                                                                  13
                                                                                                                                                                                                                                                                                                                                                                                       \vdash
GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                 AspLysvalLeuilethrcluLeuilecinHisserAlaLysHisLysvalAspileAsp
                                                                                                                                                                                                                                                                                                                                                            AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₽¥,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5.03e-137
1552.00
99.67%
99.34%
95.39%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        73101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₩.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RHODANESE.
PROTEIN-TYROSINE PHOSPHATASE.
PHOSPHOCYSTEINE INTERMEDIATE
SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1BD853FF08460DFF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           activity;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MAPK phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             YB)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nuc.
   120
                                     360
                                                                        100
                                                                                                                                              80
                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                           40
                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                 20
```

r,

Ş 밁 Ş 밁 Ś 밁 Ś В

Ş

뮵 S

```
RESULT DUSS HOLD OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOORS OCCOO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                  MEDININE-96009533; PubMed=7561881;
MATHINE-96009533; PubMed=7561881;
MATHINE-96009533; PubMed=7561881;
MATHINE-96009533; PubMed=7561881;
MATHINE-96009533; PubMed=7561881;
MATHINE-96009533; PubMed=7561881;
MATHINE-1000953; Clemens K.K.,
"NVH-5: a protein tyrosine phosphate as well as with serine/threonine-protein
phosphate as well as with serine/threonine-protein
                                                                                                   ÷
                                                                                                                                                                                                                                                                                                                                                                                                                          Q13202;
15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
15-MAR-2004 (Rel. 43, Last annotation update)
Dual specificity protein phosphatase 8 (EC 3.1.3, DUSEB OR VH5.
                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HUMAN
phosphate.

TISSUE SPECIFICITY: Abundant in brain, heart and skeleta SIMILARITY: Belongs to the protein-tyrosine phosphatase Non-receptor class dual specificity subfamily.

SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                    similarity).
CATALYTIC ACTIVITY: Protein tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTAGTGCACTGTTTAGCTGGGATCTCCGGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCCCCGAGTCTCATTTCCTGCGTGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ArgileLeubroAsnLeuTyrLeuGlyCysGlnArgAspvalLeuAsnLysGluLeuMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ThrLeuvalProThrCyslleSerGlnProCysLeuProvalAlaAsnileGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   906
                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                    phosphate
                                                                                                   H(2)0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .48)
                                                                                                                                                                                                                                           (.K., Dixon J
n brain that
                                                                                                                                    +
                                                               skeletal
                                                                                                 protein
                                                                                                                                    H(2)0
                                                                                                                                                                tyrosine-protein
n phosphate (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                               (EC 3.1.3.16)
                                                                                                                                protein
                                                                                                                                                                                                                                                               4
                                                         muscle.
                                                                                                                                                                                                                                                               Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          140
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                        음 성
                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                       밁
                                                                                                                                                                                 S
                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                   ঠ
                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                          ક
                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ş
                                            밁
                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                   US-10-029-345A-108_COPY_538_1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R MIM; 602038; -.

R GO; GO:0005737; C:cytoplasm; TAS.

R GO; GO:0004725; F:protein tyrosine phosphatase activity; TAS.

R GO; GO:000048; P:inactivation of MAPK; TAS.

R GO; GO:0006470; P:protein amino acid dephosphorylation; TAS.

InterPro; IPR000340; DS posphatase.

InterPro; IPR000340; DS phosphatase.

R InterPro; IPR001763; Rhodanese-like.

InterPro; IPR001763; Rhodanese-like.

InterPro; IPR001763; Rhodanese-like.

R InterPro; IPR001763; Rhodanese-like.

R InterPro; IPR001763; Rhodanese-like.

R InterPro; IPR001763; Rhodanese-like.

R InterPro; IPR001763; Rhodanese-like.

R INTERPOORDE; DSPc; 1.

R SMART; SM00195; DSPc; 1.

R SMART; SM00195; RHOD; 1.

R SMART; SM00195; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Genew;
GO; GO
GO; GO
GO; GO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS00383; TYR PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR PHOSPHATASE DUAL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities require a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              or send
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                 358
                                                                                                                                                                                                                                            118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     U27193; AAA83151.1;
Q16828; 1MKP.
; HGNC:3074; DUSP8.
                                                                                                                              238
                                                                                                   81
                                                                                                                                                          13
                                                                                                                                                                                                                41
                                                                                                                                                                                                                                                                      21
                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               an
CTGCTTGCAGGTGGGTTTGCTGAGGTTCTCTCGGTTGTTTTCCCTGGCCTCTGTGAAGGAAAA
                                                                                                                                                                                                                             TCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAA
                                                                                                                                                                                                                                                                     ArgGlyGlyProGlyGlyProLeuValIleAspSerArgSerPheValGluTyrAsnSer
                                                                                                                                                                                                                                                                                       GAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCCGGCCATTTGTGGAATACAATACA
                                          CAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATT
                                                                                                                                                                                                                TrpHisValLeuSerSerValAsnIleCysCysSerLysLeuValLysArgArgLeuGln
                                                                                                                                                                                                                                                                                                                           MetAlaGlyAspArgLeuProArgLysValMetAspAlaLysLysLeuAlaSerLeuLeu
                                                            GinGlyLysValThrIleAlaGluLeuIleGinProAlaAlaArgSerGlnValGluAla
                                                                                                                                                                                                                                                                                                                                                          ATGGCCCATGAGATGATTGGAACTCAAATTGTT---ACTGAGAGGTTGGTGGCTCTGCTG
                                                                                                ThrGluProGlnAspValValValTyrAspGlnSerThrArgAspAlaSerValLeuAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  lear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ă,
                                                                                                                                                                                                                                                                                                                                                                                                                         2.61e-84
988.00
81.40%
63.12%
60.73%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein.
138
430
550
246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                65840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ME.
                                                                                                                                                                                                                                                                                                                                                                                   (1-906) x DUS8_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RHODANESE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROTEIN-TYROSINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRO-RICH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DCBEA14487219666
                                                                                                                                                                                                                                                                                                                                                                                                                            Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                                                                                  625
190
55
2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CRC64;
                                                                                                                                                                                                                                                                                                                                                                                      (1-625)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŒΥ
                                            120
                                                                                                   100
                                                                                                                               297
                                                                                                                                                                                      237
                                                                                                                                                                                                                                            177
                                                                                                                                                                                                                                                                        40
                                                                                                                                                                                                                                                                                                                                                            57
                                                                                                                                                           80
                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                              20
```

```
DUSB MOUSE
ID DUSB M
OSSIL
DT 15-UUL
DT 15-UUL
DT 10-OCT
DE (Neuro
GN DUSPB |
OS MAS MU
OC ENTARY
OC MARMAN
NCBI T
RN [1]
T RN [1]
RR T THEORO
RA PATEON
RA THEORO
RA PATEON
RA THEORO
RA HARE
RT "A mem
CC -!- FU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
CC -!- SU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DUS8 MOUSE
009112;
15-JUL-1999
                                                                                                                                                                        MEDLINE=96311565; PubMed=8733137;
Theodosiou A.M., Rodrigues N.R., Nesbit M.A., Ambrose H.J.,
Theodosiou A.M., Rodrigues N.R., Neyd Y., Leversha M.A., Owen
Paterson H., McLellan-Arnold E., Boyd Y., Leversha M.A., Owen
Blake D.J., Ashworth A., Davies K.E.;
"A member of the MAP kinase phosphatase gene family in mouse
containing a complex trinucleotide repeat in the coding region
Hum. Mol. Genet. 5:675-684(1996).

-I- FUNCTION: This protein shows both activity toward tyrosine
phosphate as well as with serine/threonine-protein phospha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 8 (EC 3.
(Neuronal tyrosine threonine phosphatase 1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (Neuronal tyrosine DUSP8 OR NTTP1.
                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                     Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mus musculus
  phosphate.
SUBCELLULAR LOCATION: Cytoplasmic and nuclear.
TISSUB SPECIFICITY: Expressed predominantly in
SIMILARITY: Belongs to the protein-tyrosine ph
Non-receptor class dual specificity subfamily.
                                                                                             similarity).

GATALYTIC ACTIVITY: Protein tyrosine + phosphate.

CATALYTIC ACTIVITY: A phosph
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCTATCGCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuThrArgIleLeuProHisLeuTyrLeuGlySerGlnLysAspValLeuAsnLysAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ProAlaAlaLeuLeuProMetSerLeuSerGlnProCysLeuProValProSerValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ҍув
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GlnValIleValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTTTGCCGTGGTTGGACAAATCAGTAGAATTTCATTGAGAAAGCAAAAGCCTCCAATGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ProSerIleSerProAsnPheAsnPheI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IleMetLysThrMetGlyMetSerSerAspAspAlaTyrArgPheValLysAspArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---TCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IleLeuThrGlyGlyPheAlaThrPheSerSerCysPheProGlyLeuCysGluGlyLys
                                                                                                                                                                                                                                                                                                                                                                                                                                   Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Chordata;
Rodentia;
                                                                                                 phosphoprotein
                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Veri
Sciurognathi;
                                                                                                                                       tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    663
                                                                                                                                                                                                                                                                                                                                                                                                                                   Vertebrata; Euteleostomi;
thi; Muridae; Murinae; Mus
                                                                                                                                       phosphate +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    $
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3.1.3.48)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |||||||:::||||||:::
| nLeuLeuGluTyrGluArgThrLeu
                                                                                                                                                                                                  toward tyrosine-protein
                      in brain and phosphatase
                                                                                                                                                                                                                                     coding region.";
                                                                                                   þ
                                                                                                                                         H(2)0 =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (EC
                                                                                                                                                                            phosphate
                        l and lung.
case family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3.1.3.16)
                                                                                                                                         protein
                                                                                                                                                                                                                                                                                                 z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
```

```
Alignment Pred. No.: Score:
                                                                                                                                                                                                                                                                                                                US-10-029-345A-108_COPY_538_1443 (1-906) x DUS8_MOUSE (1-663)
                                                                                                                                                                                                                                                                                                                                                      Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPRO00340; Ds phosphatase.
InterPro; IPR000340; MAPK phosph.
InterPro; IPR000343; MAPK phosph.
InterPro; IPR000343; Rhodanese-like.
InterPro; IPR000387; TYR_phosphatase.
Pfam; PF00792; DSPc; 1.
PFAm; PF00792; DSPc; 1.
PRINTS; PR01764; MAPKHPHTASE.
SMART; SM00195; DSPc; 1.
SMART; SM00195; DSPc; 1.
PROSITE; PS50206; RHOD; 1.
SMART; SM00450; RHOD; 1.
PROSITE; PS50366; TYR_PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR_PHOSPHATASE 2; 1.
PROSITE; PS50056; TYR_PHOSPHATASE_DUAL; 1.
PROSITE; PS50054; TYR_PHOSPHATASE_DUAL; 1.
PROSITE; PS50054; TYR_PHOSPHATASE_DUAL; 1.
DOMAIN 23 138
DOMAIN 33 138
DOMAIN 452 453
DOMAIN 559 558
DOMAIN 559 576
DOMAIN 559 576
DOMAIN 559 576
DOMAIN 559 576
DOMAIN 559 576
DOMAIN 559 576
DOMAIN 559 576
DOMAIN 559 576
DOMAIN 559 576
DOMAIN 559 576
DOMAIN 311 552
PRO-RICH
PHOSPHOCYSTEI
                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; X95518; CAA64772.1; -. HSSP; Q16828; 1MKP. MGD; MGI:106626; Dusp8.
358 CTGCTTGCAGGTGGGTTTGCTGAGGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAA
                                                     101
                                                                                                                       238
                                                                                                                                                                    178
                                                                                                81
                                                                                                                                             61
                                                                                                                                                                                          41
                                                                                                                                                                                                                                                                                                                                                                                                                       Scores:
                                                                                                                                                                                                                                     21
                                                                                                                                                                                                                                                            58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                         μ
                                 :::||| ||||||:::||||||| ||||||::
AlaAspSerPheLeuSerIleLeuLeuSerLysLeuAspGlyCysPheAspSerValAla
                                                 ThrGluProGlnAspValValValTyrAspGlnSerThrArgAspAlaSerValLeuAla
                                                                                             GİnGlyLysValThrileAlaĞluLeuileĞinProAlaThrArgSerGlnValAspAla
                                                                                                                                                 CAGGACAAAGTGTTAAGTTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATT
                                                                                                                                                                         TCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAA
                                                                                                                                                                                                                     ArgGlydlyProGlyGlyProLeuVallleAspSerArgSerPheValGluTyrAsnSer
                                                                                                                                                                                                                                   MetAlaGlyAspArgLeuProArgLysValMetAspAlaLysLysLeuAlaSerLeuLeu
                                                                                                                                                                                                                                                                                       ATGGCCCATGAGATGATTGGAACTCAAATTGTT---ACTGAGAGGTTGGTGGCTCTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                            663
                                                                                                                                                                                                                                                                                                                                                                                                                                          A,
                                                                                                                                                                                                                                                                                                                                               5.03e-84
985.00
80.73%
62.46%
60.54%
1
                                                                                                                                                                                                                                                                                                                                                                                                                                          68847
                                                                                                                                                                                                                                                                                                                                                                                                                                         М.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  POLY-ARG.
POLY-SER.
POLY-SER.
POLY-SER.
POLY-SER.
PRO-RICH.
PHOSPHOCYSTEINE INTERMEDIATE (I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RHODANESE
PROTEIN-TYROSINE
                                                                                                                                                                                                                                                                                                                                                                                                                                416F429A12C1FA7C CRC64;
                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PHOSPHATASE.
                                                                                                                                                                                                                                                                                                                                         188
188
55
2
                                                                                                                                                                                                                                                                                                                                                                                                                                                       (BY
                                                                                100
                                                                                                                             80
                                                                                                                                                  237
                                                                                                                                                                          60
                                                                                                                                                                                               177
                                                                                                                                                                                                                     40
                                                                                                                                                                                                                                             117
                                                                                                                                                                                                                                                                  20
                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                      DUSA HUMAN
Q9Y6W6;
28-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                 895
                                                                                                                                                                                                                                                                                                                                                                                                                                                       281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
```

밁 Ş ₽ Ś 片 Ś В Ś 밁 Ş 망 Ś

```
RESULT

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

ID AU

I
SEQUENCE FROM N.A.

TISSUB-Brain, Lung, and Testis;

MEDLINE-22388257; PubMed-12477932;

Strausberg R.L., Feingold E.A., Grouse L.H.,

Klausner R.D., Collins F.S., Wagner L., Shenm
                                                                                                                          MEDLINE-20065165; PubMed=10597297;
Theodosiou A., Smith A., Gillieron C., Arkinstall S., Ashwenter of the MAP kinase phosphatase family, selectively dephosphorylates stress-activated kinases.";
Oncogene 18:6981-6988(1999).
                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.

MEDIJNE=99321929; PubMed=10391943;

Tanoue T., Moriguchi T., Nishida E.;

"Molecular cloning and characterization phosphatase, MKP-5.";

J. Biol. Chem. 274:19949-19956 (1999).
                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens (Human)
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
10-CCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 10 (EC 3
phosphatase 5) (MKP-5)
                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAG 897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IleMetLysThrMetGlyMetSerSerAspAspAlaTyrArgPheVaiLysAspArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCGACCATCGCTATCGCCTACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACTITATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGATACAGCAGAATGGGATTGGTTAATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ProAlaThrLeuProSerMetSerLeuSerGlnProCysLeuProValProSerValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ile \texttt{LeuThrGlyGlyPheAlaThrPheSerSerCysPheProGlyLeuCysGluGlyLys}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 leSerTyrValLeuAsnAlaSerAsnSerCysProLysPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          482
         Shenmen
                                                                                                                                                                                                                                                                                                                                            of a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
       Derge
men C.M
                                                                                                                                                                                                                                                                                                                                            novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3.1.3.
3.5) (
    .
|X
                          J.G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3.48)
(MAP
                                                                                                                                                                                                                                                                                                                                         dual
Schuler
                                                                                                                                                                                                   Ashworth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (EC
                                                                                                                                                                               which
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3.1.3.16)
  Ģ
                                                                                                                                                                                                A.;
  Ė
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   160
```

```
R EMBL; AL.

DR EMBL; AF179214,

DR EMBL; BC031405; AAH311.

DR HSSP; Q16828; IMKP.

DR Genew; HGNC:3065; DUSP10.

DR GO; GO:0005737; C:crytoplasm; TAS.

GO; GO:0005737; C:crytoplasm; TAS.

GO; GO:0004721; P:protein phosphatase activity; TAS.

DR GO; GO:0004721; P:protein amino actid dephosphorylation; TAS.

GO; GO:0006470; P:protein amino actid dephosphorylation; TAS.

GO; GO:0006540; P:response to stress; TAS.

DR GO; GO:0006950; P:response to stress; TAS.

InterPro; IPR000340; DS_phosphatase.

TherPro; IPR000340; DS_phosphatase.

TherPro; IPR000387; TYR_phosphatase.

TherPro; IPR000387; TYR_phosphatase.

TherPro; IPR001763; Rhodanese-like.

TherPro; IPR001763; Rhodanese-like.

TherPro; IPR001763; Rhodanese-like.

TherPro; IPR001763; Rhodanese-like.

TherPro; IPR001763; Rhodanese-like.

TherPro; IPR001763; Rhodanese-like.

TherPro; IPR001763; Rhodanese-like.

TherPro; IPR001763; Rhodanese-like.
             Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K., A Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F., An Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F., An Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L., An Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E., Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C., An Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C., An Richards S., Mocley R.C., Hale S., Garcia A.M., Gay L.J., Hullahy S.J., An Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Willalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., Rachiyus J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A., Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., An Hiting M., Madan A., Touchman J.W., Green E.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Blakesley R.W., Touchman J.W., Green E.D., Dickson M.A., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Schnerch A., Schein J.E., Jones S.J.M., Marra M.A., Schern J.E., Jones S.J.M., Marra M.A., Schern J.E., Jones S.J.M., Marra M.A., Schern J.E., Jones S.J.M., Marra M.A., Schern J.E., Jones S.J.M., Marra M.A., Schern J.E., Jones S.J.M., Marra M.A., Schern J.E., Jones S.J.M., Marra M.A., Schern J.E., Jones S.J.M., Marra M.A., Schern J. Rod. Sci. U.S. A. 99:16991(2002).

2. Proc. Natl. Acad. Sci. U.S. A. 99:16991(2002).

2. Specificity for the MAPKI1/MAPKI2/MAPKI3/MAPKI4 subfamily.

2. C. LYNGING A. Phosphate.
                                                                                                                                                                                                                                                                                                           PROSITE; PS50206; RHODANESE 3; 1.

PROSITE; PS00383; TYR PHOSPHATASE 1; 1.

PROSITE; PS50056; TYR PHOSPHATASE 2; 1.

PROSITE; PS50054; TYR PHOSPHATASE DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                            ACT_SITE
                                                                                                                                                                                                                                                                                           Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CATALYTIC ACTIVITY: A phosphoprotein + H(2)0 =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tyrosine + phosphate.
                                                                                                                                                                                                                                                                                           Nuclear
                                                                                                                                                                  A
                                                                                                                                                                                                                                      285
453
             8.16e-36
469.00
57.72%
35.91%
                                                                                                                                                                     52642
                                                                                                                                                                     ¥
                                                                                                                                                                                     PHOSPHOCYSTEINE SIMILARITY).
                                                                                                                                                                                                                                      RHODANESE.
PROTEIN-TYROSINE PHOSPHATASE.
                                                                                                                                                                  A8CB74ABF9498CD4
             Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                 INTERMEDIATE
                                                                                                                                                                     CRC64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          phosphatase family
             107
65
96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein
               뮍
                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query
DB:
                                                                                                                                                                                          RESULT
                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    吊
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-029-345A-108_COPY_538_1443 (1-906) x DUSA_HUMAN (1-482)
DUSA MOUSE STANDARD; PRT; 483 AA.

QSESSO; QSCZY9;
10-OCT-2003 (Rel. 42, Created)
10-OCT-2003 (Rel. 42, Last sequence update)
10-OCT-2003 (Rel. 42, Last amoutation update)
10-OCT-2003 (Rel. 42, Last amoutation update)
10-OCT-2003 (Rel. 42, Last amoutation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Match
                                                                                                                                                                                          U.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                233
                                                                                                                                                                                                                                              447
                                                                                                                                                                                                                                                                                                                                                                                            787
                                                                                                                                                                                                                                                                                                                                                                                                                                              407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      173 ValllelleAspCysArgProPheMetGluTyrAsnLysSerHisIleGlnGlyAlaVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AATATCAACTGCTCC---AAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATT
                                                                                                                                                                                                                                                                      CCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                           HisCysGlnAlaGlyValSerArgSerAlaThrIleValIleAlaTyrLeuMetLysHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PheGluGluAlaPheGluPheIleGluGluAlaHisGlnCysGlyLysGlyLeuLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGCCTTGCTTACCT---GTTGCCAACATTGGGCCAACCCGAATTCTTCCCAATCTTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CysArgGluValGlyGlyGlyAlaSerAlaAlaSerSerLeuLeuProGlnProIle---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LeuSerSerPheLysGlnAsnHisGluAsnLeuCysAspAsnSerLeuGlnLeuGlnGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ileIleValTyrAspGluAsnThrAsnGluProSerArgValMetProSerGlnProLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuAspLeuIleSerCysArgGluGlyLysAspSerPheLysArgIlePheSerLysGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ProAsnLeuAsnPheMetGlyGlnLeuLeuGluPheGluGluAspLeuAsnAsn
                                                                                                                                                                                                                                                                                                                                          ThrargMetThrMetThrAspAlaTyrLysPheValLysGlyLysArgProIleIleSer
                                                                                                                                                                                                                                                                                                                                                                       CACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTGCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ValIleAsnValThrThrHisLeuProLeuTyrHisTyrGluLysGlyLeuPhe-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTGTTANATGCCAGC-----TATACCTGTCCAAAGCCTGACTTTATCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ---ProThrThrProAspIleGluAsnAlaGluLeuThrProIleLeuProPheLeuPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HisIleValLeuGluSerLeuLysArgGluGlyLysGluProLeuValLeuLysGlyGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACAGAGCTCATCCAG----CATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HisileAsnCysAlaAspLysIleSerArgArgArgLeuGlnGlnGlyLysIleThrVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----AsnTyrLysArgLeuProAlaThrAspSerAsnLysGlnAsnLeuArgGlnTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LeuGlyAsnGluGlnAspAlaGlnAspLeuAspThrMetGlnArgLeuAsnIleGlyTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTTGCTGAGTTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAA-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----TCCACTCTAGTCCCTACCTGCATTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3.1.3.48)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7 30
                    (EC 3.1.3.16)
```

272

417

252

232

212 195

426

446

406 726 386 999 368 606 350 561 330 501 311 444 292

MEDLINE=20515587; PubMed=11060451; Masuda K., Shima H., Kikuchi K., Watanabe Y., Ma "Expression and comparative chromosomal mapping DUSP10/Dusp10."; Cytogenet. Cell Genet. 90:71-74(2000).

Matsuda latsuda Y.;

SEQUENCE FROM N.A.

Mus musculus

(Mouse).

phosphatase 5) DUSP10 OR MKP5

(Mitogen-activated protein kinase phosphatase 5) (MAP kinase phosphatase 5) (MKP-5).

SEQUENCE FROM N.A. STRAIN=C57BL/6J; TISSUE=Embryo

```
RX MEDLINE=2108560; PubMed=11217851;
RA Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
RA Arakawa T., Hara A., Fukunishi Y., Komno H., Adachi J., Fukuda S.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Kadota K., Matsuda H.A., Shiburner M., Batalov S., Casavant T.,
RA Kadota K., Matsuda H.A., Ashburner M., Batcalov S., Casavant T.,
RA Kadota K., Matsuda H.A., Ashburner M., Berlov S., Casavant T.,
RA Kuchi P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Ouackenbush J.,
RA Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Schriml L.M., Staubli F., Bujunga N., Carninci P., de Bonaldo M.F.,
RA Blake J., Boffelli D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Suzuki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wilming L.,
RA Mynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its way non-profit institutions as long as its content is in no way entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Functional annotation of a full-length mouse cDNA collection.";
Nature 409:685-690(2001).

-i- FUNCTION: Involved in the inactivation of MAP kinases. Has a specificity for the MAPK11/MAPK12/MAPK13/MAPK14 subfamily (B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                               phosphate.
SUBCELLULAR LOCATION: Cytoplasmic and nuclear (By similarity)
SIMILARITY: Belongs to the protein-tyrosine phosphatase famil.
Non-receptor class dual specificity subfamily.
SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             H(2)0 = protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   æ
                                         Ş
                                                                              밁
                                                                                                        Ś
                                                                                                                                              DЬ
                                                                                                                                                                               δ
                                                                                                                                                                                                                   맑
                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                        ДЪ
                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-029-345A-108_COPY_538_1443 (1-906) x DUSA_MOUSE (1-483)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Alignment S
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DR PT FT FT SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CONFLICT
CONFLICT
CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PROSITE; PS00383;
PROSITE; PS50056;
PROSITE; PS50054;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN
                                                                          388
                                                                                                                                                                               607
                                                                                                                                                                                                                 352
                                                                                                                                                                                                                                                   562
                                                                                                                                                                                                                                                                                        332
                                                                                                                                                                                                                                                                                                                        502
                                                                                                                                                                                                                                                                                                                                                                                             445
                                                                                                                                                                                                                                                                                                                                                                                                                             294
                                                                                                                                                                                                                                                                                                                                                                                                                                                              418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           194 HisileAsnCysAlaAspLysIleSerArgArgArgLeuGlnGlnGlyLysIleThrVal
CACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGG
                                                   PheGluGluAlaPheGluPheIleGluGluAlaHisGlnCysGlyLysGlyLeuLeuIle
                                                                                     TTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTTCTAGTG
                                                                                                                                                          GAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGG
                                                                                                                                                                                          VallleAsnValThrThrHisLeuProLeuTyrHisTyrGluLysGlyLeuPhe-----
                                                                                                                                                                                                                                          GTGTTAAATGCCAGC-----
                                                                                                                                                                                                                                                         |||||| ::::::||| ::: ::: :::||||::::
|LeuGlyAsnGluGlnAspAlaGlnAspLeuAspThrMetGlnArgLeuAsnIleGlyTyr
                                                                                                                                                                                                                                                                                                 CTTGGCTGCCAGCGAGATGTCCTCCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTAT
                                                                                                                                                                                                                                                                                                                                    ValProThrThrProAspIleGluAsnAlaGluLeuThrProileLeuProPheLeuPhe
                                                                                                                                                                                                                                                                                                                                                          CAGCCTTGCTTACCT---GTTGCCAACATTGGGCCAACCCGAATTCTTCCCAATCTTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LeuSerSerPheLysGlnAsnHisGlyAsnLeuCysAspAsnSerLeuGlnLeuGlnGlu
                                                                                                                                                                                                                                                                                                                                                                                                          CysArgGluValGlyGlyGlyAlaSerAlaAlaSerSerMetLeuProGln-----Ser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HislleValLeuGluSerLeuLysArgGluGlyLysGluProLeuValLeuLysGlyGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGG 372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IleIleValTyrAspGluAsnThrAsnGluProSerArgValThrProSerGlnProLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuAspLeuileSerCysArgGluGlyLysAspSerPheLysArgIlePheSerLysGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACAGAGCTCATCCAG----CATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AATATCAACTGCTCC---AAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -AsnTyrLysArgLeuProAlaThrAspSerAsnLysGlnAsnLeuArgArgTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   169
386
409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .ear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            48
113
386
52530 .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; TYR_PHOSPHATASE 1; 1.
; TYR_PHOSPHATASE 2; 1.
; TYR_PHOSPHATASE DUAL;
; TYR_PHOSPHATASE_DUAL;
; TYR_PHOSPHATASE_DUAL;
; TYR_PHOSPHATASE_DUAL;
; TYR_PHOSPHATASE_PHOTEIN_TYRO
456
PHOSPHOCYSTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.01e-35
468.00
58.05%
35.57%
28.76%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RHODANESE.
PROTEIN-TYROSINE PHOSPHATASE.
PHOSPHOCYSTEINE INTERMEDIATE (E
SIMILARITY)
A -> T (IN REF. 2).
P -> S (IN REF. 2).
R -> Q (IN REF. 2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3551562355B46FB9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                         ------rccactctagtccctacctgcatttct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
                                                                                                                                                                                                                               -TATACCTGTCCAAAGCCTGACTTTATCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               483
106
67
95
30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (BY
                                                       407
                                                                                                                         387
                                                                                                                                                            666
                                                                                                                                                                                            369
                                                                                                                                                                                                                               909
                                                                                                                                                                                                                                                                                                   561
                                                                                                                                                                                                                                                                   351
                                                                                                                                                                                                                                                                                                                                                                      501
                                                                                                                                                                                                                                                                                                                                     331
                                                                                                                                                                                                                                                                                                                                                                                                          311
                                                                                                                                                                                                                                                                                                                                                                                                                                          444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  193
```

-

similarity).

CATALYTIC ACTIVITY: Protein tyrosine phosphate +
tyrosine + phosphate.

CATALYTIC ACTIVITY: A phosphoprotein + H(2)0 = a

PRINTS; PRO1764; MAPKPHPHTASE.
SMART; SM00195; DSPC; 1.
SMART; SM00450; RHOD; 1.

RHODANESE_3;

Pfam; PF00782; DSPc; 1.
Pfam; PF00581; Rhodanese; 1.

TYR_phosphatase

MGD; MGI:1927070; Dusp10.

InterPro; IPR000340; DS phosphatase.

InterPro; IPR000343; MAPK, phosph.

InterPro; IPR001763; Rhodanese-like.

InterPro; IPR000387; TYR_phosphatase
Pfam: PF00762. hpc.; TYR_phosphatase

AB037908; BAB17680.1; AK011995; BAB27966.1; Q16828; 1MKP.
MGI:1927070; Dusp10.

ঠ

밁

S

문

```
LT 6
                                                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-1997 (Rel. 35, Last sequence update)
10-OCT-2003 (Rel. 42, Last announce update)
Dual specificity protein phosphatase 6 (EC 3.1.3.48) (EC 3.1.3.16)
(Mitogen-activated protein kinase phosphatase 3) (MAP kinase phosphatase 3) (MAP kinase phosphatase 3) (MAP kinase PYST1 phosphatase 3) (MKP-3) (Dual specificity protein phosphatase PYST1
                                                                                                                                                                                                                                                                                                                                                                                                                                                   DUS6 HUMAN STANDARD
Q168ZB; O75109; Q9BSH6;
01-NOV-1997 (Rel. 35, C
01-NOV-1997 (Rel. 35, I
Stewart A.E., Dowd S., Keyse S.M., McDonald "Crystal structure of the MAPK phosphatase implications for regulated activation.";
                                                                                                                                                                                                                                                                                                                 MEDLINE=96312959; PubMed=8670865;
Groom L.A., Sneddon A.A., Alessi D.R., Dowd S., Keyse S.M.;
"Differential regulation of the MAP, SAP and RK/p38 kinases
a novel cytosolic dual-specificity phosphatase.";
EMBO J. 15:3621-3632(1996).
                                                                                                                                                                                                              SEQUENCE FROM N.A. (ISOFORM 1), TISSUE=Colon, Kidney, Skin, and
                                                                                                                                                                                                                                            "Genomic analysis of DUSP6, a in pancreatic cancer.";
                                                                                                                                                                                                                                                                   Fukushige S.,
                      MEDLINE=99140299; PubMed=10048930;
                                                                                                                                                                                                                                                                          Furukawa T., Yatsuoka T.,
                                                                                                                                                                                                                                                                                    MEDLINE=99077745; PubMed=9858808;
                                                                                                                                                                                                                                                                                            TISSUE=Liver;
                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A. (ISOFORMS 1 AND
                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                        Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                               DUSP6 OR MKP3 OR PYST1.
                               K-RAY CRYSTALLOGRAPHY (2.35 ANGSTROMS)
                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. (ISOFORM
                                                                                                                                                                                                                                                                                                                                                                                                      domo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |||||| || ||||:::||||||||||||::::::|||::: |||::: |||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HisCysGlnAlaGlyValSerArgSerAlaThrIleValIleAlaTyrLeuMetLysHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ThrArgMetThrMetThrAspAlaTyrLysPheValLysGlyLysArgProIleIleSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cell Genet. 82:156-159(1998)
                                                                                                                                                                                                                                                                                                                                                                                                Metazoa;
                                                                                                                                                                                                                                                                    Soeda E.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                       Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Created)
                                                                                                                                                                                                                                                                    Hoshi M.,
                                                                                                                                                                                                                                                                  Youssef E.M., Abe T., Yokoyam
oshi M., Hayashi Y., Sunamura
                                                                                                                                                                                                                                                                                                                                                                 <u>:</u>
                                                                                                                                                                                                                                                      dual
                                                                                                                                                                                                                                                                                                                                                                                       Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                       AND VARIANT VAL-114
                                                                                                                                                                                                               Stomach;
               McDonald N.Q.;
                                                                                                                                                                                                                                                    specificity
                                                                                                                                                                                                                                                                                                   2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            381
                                ဝူ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ₿
                                204-347.
                                                                                                                                                                                                                                                   MAP kinase phosphatase,
                                                                                                                                                                                                                                                                            Yokoyama
        catalytic
                                                                                                                                                                                                                                                                   3
                                                                                                                                                                                                                                                                            .<del>1</del>
                                                                                                                                                                                                                                                                     Kobari M.,
         domain
                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                       PYST1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           465
         and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         846
```

```
STRAND
TURN
STRAND
TURN
HELIX
TURN
                                                                                                                                                                                                                                                                           PROSITE;
                                                                                                                                                                                                                                                                                                                  PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL;
EMBL;
EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL;
                                                                                                                                                                                                 DOMAIN
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                       PRINTS; PR01764; MAPKPHPHTASE. SMART; SM00195; DSPC; 1. SMART; SM00450; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GO; GO:0004725; F:protein tyrosine phosphatase activity; ID GO; GO:0000188; P:inactivation of MAPK; IDA GO; GO:0006470; P:protein amino acid dephosphorylation; TAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nat.
                                                                                                                                       VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                   Pfam; PF00782; DSPc; 1.
Pfam; PF00581; Rhodanese; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR000340; DS phosphatase.
InterPro; IPR000343; MAPK_phosph.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR000387; TYR_phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Genew;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            entities requires a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               use by non-profit institutions as long as modified and this statement is not removed. I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          between
                                                                                                                                                                              /ARSPLIC
                                                                                                                                                                                                                                        OMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            phosphate
SUBCELLULAR I
ALTERNATIVE I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GO:0005737; C:cytoplasm; IDA.
GO:0005625; C:soluble fraction; TAS.
GO:0004725; F:protein serine/threonine phosphatase activity; IDA.
GO:0004725; F:protein tyrosine phosphatase activity; IDA.
GO:000188; P:inactivation of MAPK; IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 L; AB013601; BAA31968 1; -.

J; AB013383; BAA31968 1; JOINED.

L; AB013600; BAA31968 1; JOINED.

L; AB013382; BAA34369 1; -.

L; AB013602; BAA31969 1; -.

L; BC003143; AAH03143 1; -.

L; BC003547; AAH05047 1; -.

L; BC005047; AAH05047 1; -.

L; BC007236; AAH05047 1; -.

L; BC007236; AAH05047 1; -.

L; BC007236; AAH05047 1; -.

L; BC007236; AAH05047 1; -.

L; BC007236; AAH05047 1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Non-receptor class dual specificity subfamily. SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IsoId=Q16828-2; Sequence=VSP_005137; SIMILARITY: Belongs to the protein-tyrosine phosphatase Non-receptor class dual specificity subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tyrosine + phosphate.
CATALYTIC ACTIVITY: A phosphoprotein + H(2)O = a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           family. CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)O = CATALYTIC ACTIVITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FUNCTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Event=Alternative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1MKP; 22-JUL-99.
1HZM; 25-JAN-02.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SWISS-PROT entry is copyright. It is produced through een the Swiss Institute of Bioinformatics and the Eleuropean Bioinformatics Institute. There are no rest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         602748;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Struct. Biol. 6:174-181(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     X93920; CAA63813.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IsoId=Q16828-1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HGNC:3072; DUSP6.
                                                                                                                                                                                                                                                                               PS50054;
                                                                                                                                                                                                                                                                                                                  PS50206; RHODANESE 3; 1. PS00383; TYR_PHOSPHATASE
                                                                                                                                                                                                                                                                                                PS50056;
                                                                                                                                                                                                                                                             POL
  208
212
214
219
225
231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q16828-1; Sequence=Displayed;
Synonyms=DUSP6-ALT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Inactivates MAP
                                                                                                                                                                                                                                                             ymorphism;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LOCATION: Cytoplasmic PRODUCTS:
                                                                                                                                                                                                                                                TYR PHOSPHATASE 1; FALSE_NEG.
TYR_PHOSPHATASE_2; 1.
TYR_PHOSPHATASE_DUAL; 1.
TYR_PHOSPHATASE_DUAL; 1.
rphism; Alternative splicing; 3D-structure.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              license
                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYR_phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          splicing; Named isoforms=2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              agreement
                                                                                                                                                                            PHOSPHOCYSTEINE INTE
                                                                                                                                                                                                                      PROTEIN-TYROSINE PHOSPHATASE
                                                                                                                                                                                                                                        RHODANESE.
                                                                                                                 FTId=VAR_015113
                                                                                                                                                      FTId=VSP_005137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      kinases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            oved. Usage by and fo
(See http://www.isb-sib.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Has a
                                                                                                                                                                                                   INTERMEDIATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    specificity for the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   its content
                                                                                                                                                                              <u>2</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TEMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ın
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BRK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뎡
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          엵
```

STRAND STRAND TURN STRAND TURN HELIX HELIX

TURN
STRAND
HELIX
TURN
HELIX
TURN
TURN
TURN
TURN
HELIX

```
US-10-029-345A-108_COPY_538_1443 (1-906) x DUS6_HUMAN (1-381)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Alignment Scores:
                                                      AAGCCT---GACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTT
                                                                                                   LeuAspValLeuGluGluPheGlyİleLysTyrIleLeuAsnValThrProAsnLeuPro
                                                                                                                                        AAGGAGCTGATACAGCAGAATGGGGATTGGTTATAGTGTTAAATGCCAGCTATACCTGTCCA
                                                                                                                                                                                            SerPheProvalGluileLeuProPheLeuTyrLeuGlyCysAlaLysAspSerThrAsn
                                                                                                                                                                                                                                                                                             AspArgAspProAsnSerAlaThrAspSerAspGlySerProLeuSerAsnSerGlnPro
                                                                                                                                                                                                                                                                                                                                                                                           LeuGlyLeuGlyGlyLeuArgIleSerSerAspSerSerSerAspIleGluSerAspLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGTGAAGGAAAATCCACTCTAGTCCCTACCTGC---ATTTCTCAGCCTTGCTTACCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCAACATTGGG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |||||||
|CysGlu-----ThrAsnLeuAspGlySerCysSerSerSerProProLeuProVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CysargalaPheTyrLeuGluGlyGlyPheSerLysPheGlnAlaGluPheSerLeuHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AACTCTGTTCACCTGCTTGCAGGTGGGGTTTGCTGAGGTTCTCGTTGTTTTCCCTGGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GluAsnThrGlyGlyGluSerLeuLeuGlyLeuLeuLeuLeuLysLysLeuLysAspGluGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ThrargargCysGlyThraspThrValValLeuTyrAspGluserSerSerAspTrpAsn 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACATTGATTGC---AGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGAT---GTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GinLysGlyAsnLeuProValArgAlaLeuPheThrArgGlyGluAspArgAspArgPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCG---AAACATAAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SerSerHisileGluSerAlalleAsnValAlalleProGlyTleMetLeuArgArgLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGGAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAAT
                                                                                                                                                                                                                                 CCAACCCGAATTCTTCCCAATCTTTATCTTTGGCTGCCAGCGAGGATGTCCTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           238
246 250
251 252
253 257
164 265
69 271
72 284
5 286
3 292
312
313
326
3329
345
345
42333 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.08e-35
467.50
53.56%
34.06%
28.73%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     03BC12252CE73B26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 381
110
63
105
45
                                                                                                                                                  588
                                                                                                                                                                                                                                                                                                                                                                                             184
                                                                                                                                                                                                                                                                                                                                                                                                                                             474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           66
                                                                                                                                                                                                                                                                                                                    RN 11

RP SEQUENCE FROM N.A.

RC STRAIN=(57BL)(6); TISSUB=Liver, and Tongue;

RX MEDLINE=2108566); PubMed=11217881;

RA Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,

RA Arakawa T., Hara A., Fukunishi Y., Konno H., Kondo S., Yamanaka I.,

RA Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,

RA Alzawa T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,

RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,

RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,

RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,

RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,

RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,

RA Kadota K., Matsuda Y., Nikaido I., Peeole G., Quackenbush J.,

RA Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,

RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,

RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,

RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,

RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,

RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,

RA Suzuki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wilming L.

RA Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
                                            ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMPANA ACCOMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 7
DUS6_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뭉
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뮍
SEQUENCE FROM N.A.

MEDLINE=22388257; PubMed=12477932;

Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                             "Functional annotation of Nature 409:685-690(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QDBBI; QDD7L4;
28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
10-CCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 6 (EC 3.1.3)
(Mitogen-activated protein kinase phosphatase 3)
phosphatase 3) (MKP-3).
DUSP6 OR MKP3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MetLysLysSerAsnileSerProAsnPheAsnPheMetGlyGlnLeuLeuAspPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ArgThrLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGAAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerGlnAsnLeuSerGlnPhePheProGluAlaIleSerPhelleAspGluAlaArgGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  894
                                                                                                                                                                                                                                                                                               full-length mouse cDNA collection.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata; I
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (MAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Euteleostomi; ; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (EC 3.1
P kinase
```

3.1.3.16)

324 825 304 765 284

Best Local Si Query Match: DB:

No.:

문 Ş 뮹 Ś

47

27

87

Ş 밁 Ś В Ś 멍 Ś 밁 Ś 8 Ş 밁 Ś 뭐 Ś 맑 Ś

> 475 185 474

```
Alignment Scores: Pred. No.: Score:
               ð
                                          밁
                                                                       ঠ
                                                                                                                                                Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                       US-10-029-345A-108_COPY_538_1443
                                                                                                                                                                                                                                                      CONFLICT
CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                            DOMAIN
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H., Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A., Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Schein J.E., Jones S.J.M., Marra M.A.; Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.; "Generation and initial analysis of more than 15,000 full-length human and mouse CDNA sequences"; Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                                                                                                                                                                                                                                                         PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS00383; TYR PHOSEHATASE 1; FAI
PROSITE; PS50056; TYR PHOSEHATASE 2; 1.
PROSITE; PS50054; TYR_PHOSEHATASE_DUAL;
                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PR01764; MAPKPHPHTASE SMART; SM00195; DSPc; 1. SMART; SM00450; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MGD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; AK005062; BAB23786.1; -.
EMBL; AK009131; BAB26093.1; -.
EMBL; BC003869; AAH03869.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ÷
                                                                                                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                                                              Hydrolase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               phosphate.
SUBCELLULAR LOCATION: Cytoplasmic (By similarity).
SUBCELLULAR LOCATION: Cytoplasmic (By similarity).
SIMILARITY: Belongs to the protein-tyrosine phosphatase
Non-receptor class dual specificity subfamily.
SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tyrosine + phosphate.

CATALYTIC ACTIVITY: A phosphoprotein + H(2)O =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           family (By similarity).
CATALYTIC ACTIVITY: Protein tyrosine phosphate +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MGI:1914853; Dusp6.
rrPro; IPR000340; DS phosphatase.
rrPro; IPR000343; MAPK phosph.
rrPro; IPR001763; Rhodanese-like.
                 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PF00782; DSPc;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q16828; 1MKP
                                             27
ACATCCCACATTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTG
:::||||||||||
                                                            CTGGAAAGTGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAAT
                                          LeuGluLeuGlyAsnGluArgLeuLeuLeuMetAspCysArgProGlnGluLeuTyrGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IPR000387; TYR_phosphatase
0782; DSPc; 1.
                                                                                                                                                                                                                                                                                                                 30
206
293
                                                                                                                                                                                                                                                                     22
34
                                                                                                                                       3.17e-35
462.50
53.56%
33.75%
28.43%
                                                                                                                                                                                                                                                                                                                 148
381
293
                                                                                                                                                                                                                                                       22
34
42407
                                                                                                                                                                                                                                                         Μ¥,
                                                                                                     (1-906) x DUS6_MOUSE (1-381)
                                                                                                                                                                                                                                                                  SIMILARITY)
W -> G (IN I
                                                                                                                                                                                                                                                                                                               RHODANESE.
PROTEIN-TYROSINE
PHOSPHOCYSTEINE I
                                                                                                                                                                                                                                                      -> G (IN REF. 1;
-> F (IN REF. 1;
7EA1FB154F4AD2DA
                                                                                                                                                Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                       FALSE_NEG
                                                                                                                                                                                                                                                                                                                                                                            ۲.
                                                                                                                                                                                                                                                                                                                 E PHOSPHATASE
INTERMEDIATE
                                                                                                                                                                                                                                                       BAB26093).
CRC64;
                                                                                                                                                                                                                                                                                   BAB26093)
                                                                                                                                      381
109
64
105
45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               បា
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            H(2)0 =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein
                                                                                                                                                                                                                                                                                                                   AB)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein
                                              46
                                                                         114
                 174
유
                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                멍
                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    日
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
DUS6_RAT STANDARD; PRT; 381 AA. Q64346; 01-NOV-1997 (Rel. 35, Created) 01-NOV-1997 (Rel. 35, Last sequence update) 10-OCT-2003 (Rel. 42, Last annotation update) 10-Bual specificity protein phosphatase 6 (EC 3.1.3.48) (Mitogen-activated protein kinase phosphatase 3) (MAR phosphatase 3) (MKP-3).
                                                                                                                                                                                                                                         325
                                                                                                                                                                                                                                                                                                   305
                                                                                                                                                                                                                                                                                                                                                                                                                                                       646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               474
                                                                                                                                                                                345
                                                                                                                                                                                                                                                                       826
                                                                                                                                                                                                                                                                                                                               766
                                                                                                                                                                                                                                                                                                                                                              285
                                                                                                                                                                                                                                                                                                                                                                                                                        265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          47
                                                                                                                                                                                                             AAGAAGATT
                                                                                                                                                                              ArgThrLeu
                                                                                                                                                                                                                                         MetLysLysSerAsnIleSerProAsnPheAsnPheMetGlyGlnLeuLeuAspPheGlu
                                                                                                                                                                                                                                                         GAAAAAAGACCTACTATATCTCCAAAACTTCAATTTTTCTGGGCCAACTCCTGGACTATGAG
                                                                                                                                                                                                                                                                                                                      ATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAA
                                                                                                                                                                                                                                                                                                                                                           LysAsnCysGlyValLeuValHisCysLeuAlaGlyIleSerArgSerValThrValThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AsnLeuPheGluAsnAlaGlyGluPheLysTyrLysGlnIleProIleSerAspHisTrp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SerPheProValGluIleLeuProPheLeuTyrLeuGlyCysAlaLysAspSerThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GluasnThrGlyGlyGluSerValLeuGlyLeuLeuLeuLysLysLeuLysAspGluGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCCTCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ThrargargCysGlyThraspThrValValLeuTyraspGluAsnSerSerAspTrpAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACATTGATTGC---AGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGAT---GTT
                                                                                                                                                                                                                                                                                                 ValAlaTyrLeuMetGlnLysLeuAsnLeuSerMetAsnAspAlaTyrAspIleValLys
                                                                                                                                                                                                                                                                                                                                                                            TCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCACCATCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                        SerGlnAsnLeuSerGlnPhePheProGluAlaIleSerPheIleAspGluAlaArgGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AspArgAspProAsnSerAlaThrAspSerAspGlySerProLeuSerAsnSerGlnPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LeuGlyLeuGlyGlyLeuArgIleSerSerAspSerSerSerAspIleGluSerAspLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCAACATTGGG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CysArgAlaPheTyrLeuGluGlyGlyPheSerLysPheGlnAlaGluPheAlaLeuHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlnLysGlyAsnLeuProValArgAlaLeuPheThrArgCysGluAspArgAspArgPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCAT---TCAGCGAAACATAAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SerSerHisIleGluSerAlaIleAsnValAlaIleProGlyIleMetLeuArgArgLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAGCCT----GACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----CCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCCTTGTTTTCCCTGGCCTC
                                                                                                                                                                                                             894
                                                                                                                                                                                                                                                                                                                 (EC 3.1.3.16)
```

344

324

304

204 528 224 588 588 645 264 705 146 462 164 474 184

474

126

106

98

```
US-10-029-345A-108_COPY_538_1443
                                                         Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                      Score:
                                                                                                                              Alignment Scores:
                                                                                                                                                                                                                                RMBL; X94185; CAA63895-1;
RMBL; U42627; AAB06202.1;
RSSP; Q16828; 1MKP;
InterPro; IPR000340; DS phosphatase.
InterPro; IPR000343; MAPK phosph.
InterPro; IPR000343; MAPK phosph.
InterPro; IPR000387; TYR_phosphatase-1ike.
InterPro; IPR000387; TYR_phosphatase.
InterPro; IPR000387; TYR_phosphatase.
Pfam; PF00782; DSPc; 1.
Pfam; PF00581; Rhodanese; 1.
PFAM; PF00581; Rhodanese; 1.
PFAM; SMACT; SM00195; DSPc; 1.
SMART; SM00195; DSPc; 1.
PROSITE; PS0036; RHOD; 1.
PROSITE; PS00383; TYR_PHOSPHATASE 1; FALSE NEG.
PROSITE; PS00383; TYR_PHOSPHATASE 2; 1.
PROSITE; PS00383; TYR_PHOSPHATASE_11.
PROSITE; PS00383; TYR_PHOSPHATASE_11.
                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                          DOMAIN
                                                                                                                     No.:
                                                                                                                                                                                           ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its work by non-profit institutions as long as its content is in no way entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "A novel cytoplasmic dual specificity protein tyrosine phosphatase implicated in muscle and neuronal differentiation.";

J. Biol. Chem. 271:3795-3802(1996).

-I- FUNCTION: Inactivates MAP kinases. Has a specificity for the ERK family. Implicated in muscle and neuronal differentiation.

-I- CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)O = protein tyrosine + phosphate.

-I- CATALYTIC ACTIVITY: A phosphoprotein + H(2)O = a protein +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mourey R.J., Vega Q.C.,
Krebs E.G., Dixon J.E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A. MEDLINE=96216487;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN-Sprague-Dawley; TISSUE-Neuron;
MEDLINE-96224012; PubMed-9626780;
Muda M., Boschert U., Dickinson R., Martinou J.C., Mart
Camps M., Schlegel W., Arkinstall S.;
"MKP-3, a novel cytosolic protein-tyrosine phosphatase
exemplifies a new class of mitogen-activated protein ki
phosphatase.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rattus norvegicus (Rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            phosphate.
SUBCELLULAR LOCATION: Cytoplasmic.
SIMILARITY: Belongs to the protein-tyrosine phosphatase family.
Non-receptor class dual specificity subfamily.
SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Biol. Chem.
                                                                                                                                                             381
                                                                                                                                                                                        30
206
293
                                                                                                                                                         ΑA,
                                                3.94e-35
461.50
53.56%
33.75%
28.37%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             271:4319-4326(1996)
                                                                                                                                                                                      148
381
293
                                                                                                                                                        42318 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PubMed=8631996;
Q.C., Campbell J.S., Wenderoth M.P.,
(1-906) x DUS6_RAT
                                                                                                                                                                         RHODANESE.
PROTEIN-TYROSINE |
PHOSPHOCYSTEINE |
                                                                                                                                              SIMILARITY).
; C511E00CB68F2888
                                              Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                           INTERMEDIATE
                                                                                                                                                                                        PHOSPHATASE
   (1-381)
                                                                      381
109
64
                                                                                                                                              CRC64;
                                105
45
7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Martinou
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hauschka S.D.,
                                                                                                                                                                         (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Η.,
```

```
RESULT 9
VHP1_CAEEL
ID VHP1_CAEEL
AC Q10038;
                                                    밁
                                                                     Ş
                                                                                            밁
                                                                                                               Ś
                                                                                                                                    밁
                                                                                                                                                        Ş
                                                                                                                                                                              В
                                                                                                                                                                                             5
                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                         Вb
                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                 맑
                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
Q10038;
                                                  345
                                                                       886
                                                                                          325
                                                                                                                                   305
                                                                                                                                                        766
                                                                                                                                                                           285
                                                                                                                                                                                                                                                                                                       225
                                                                                                                                                                                                                                                                                                                            529
                                                                                                                                                                                                                                                                                                                                                205
                                                                                                                                                                                                                                                                                                                                                                                        185
                                                                                                                                                                                                                                                                                                                                                                                                             474
                                                                                                                                                                                                                                                                                                                                                                                                                                 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         147
                                                                                                                                                                                                                                                                                                                                                                                                                                                 463 GCCAACATTGGG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           107
                                                                                        GAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAG
                                                ArgThrLeu
                                                                   AAGAAGATT
                                                                                     MetLysLysSerAsnIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  175 CAACAGGACAAAGTGTTAATTACAGAGÇTÇATCCAGCAT---TCAGCGAAACATAAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        115
                                                                                                                      ValAlaTyrLeuMetGlnLysLeuAsnLeuSerMetAsnAspAlaTyrAspIleValLys
                                                                                                                                        ATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAA
                                                                                                                                                              LysAsnCysGlyValLeuValHisCysLeuAlaGlyIleSerArgSerValThrValThr 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            67 GinLysGlyAsnLeuProValArgAlaLeuPheThrArgCysGluAspArgAspArgPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  87
                                                                                                                                                                           TCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCCACCATCGCT 765
                                                                                                                                                                                                      TGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCC
                                                                                                                                                                                                                                                        AAGCCT---GACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTT 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27
                                                                                                                                                                                                                                               AsnLeuPheGluAsnAlaGlyGluPheLysTyrLysGlnIleProIleSerAspHisTrp
                                                                                                                                                                                                                                                                                        LeuAspValLeuGluGluPheGlyIleLysTyrIleLeuAsnValThrProAsnLeuPro
                                                                                                                                                                                                                                                                                                    AAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               55
                                                                                                                                                                                                                                                                                                                                SerPheProvalGluileLeuProPheLeuTyrLeuGlyCyBAlaLysAspSerThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                               LeuGlyLeuĠİyGlyLeuArgIleSerSerAspSerSerAspIleGluSerAspLeu 184
                                                                                                                                                                                                                                                                                                                                               -----CAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAAC
                                                                                                                                                                                                                                                                                                                                                                          AspArgAspProAsnSerAlaThrAspSerAspGlySerProLeuSerAsnSerGlnPro 204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGTGAAGGAAAATCCACTCTAGTCCCTACCTGC---ATTTCTCAGCCTTGCTTACCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CysArgAlaPheTyrLeuGludiyGlyPheSerLysPheGlnAlaGluPheAlaLeuHis 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                         |||||||
|CysGlu-----ThrAsnLeuAspGlySerCysSerSerSerSerProProLeuProVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AACTCTGTTCACCTGCTTGCAGGTTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GluAsnThrGlyGlyGluSerValLeuGlyLeuLeuLeuLysLysLeuLysAspGluGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACATTGATTGC---AGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGAT----GTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerSerHisileGluSerAlaileAsnValAlaIleProGlyIleMetLeuArgArgLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACATCCCACATTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTG
     STANDARD;
                                                347
                                                                   894
    PRT;
   619
  A
                                                                                                                                                                                                                                                                                                                                                                                                                                       885
                                                                                                                      324
                                                                                                                                                                                                                           705
                                                                                                                                                                                                                                                264
                                                                                                                                                                                                                                                                                        244
                                                                                                                                                                                                                                                                                                             588
                                                                                                                                                                                                                                                                                                                                 224
                                                                                                                                                                                                                                                                                                                                                      528
                                                                                                                                                                                                                                                                                                                                                                                               474
                                                                                                                                                                                                                                                                                                                                                                                                                                      474
                                                                                                                                                                                                                                                                                                                                                                                                                                                            164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                46
```

```
δ
                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local S
Query Match:
                                    S
                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOLITION SERVING COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLOCULO COLO
                                                                                            밁
                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                         US-10-029-345A-108_COPY_538_1443 (1-906) x VHP1_CAEEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-NOV-1997
01-NOV-1997
10-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for commodified and this statement is not removed. Usage by and for commodified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WormPep; F08B1.1; CE01899.
InterPro; IPR000340; DS_phesphatase.
InterPro; IPR000387; TYR_phosphatase.
Pfam; PF00782; DSPc; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; U23178; AAC46719.1; PIR; T15969; T15969.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. STRAIN=Bristol N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Caenorhabditis elegans.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VHP-1 OR F08B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Protein-tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tyrosine + phosphate.
SIMILARITY: Belongs to the protein-tyrosine phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Non-receptor class dual specificity subfamily.
                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                  367
  158
                                                                                            138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity:
                                                                                                                                                                                                                                                                                    99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q16828; 1MKP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SM00195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; PS50056;
                                                                                                                                                                                                               ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTA-----CCTGTTGCCAACATTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PS00383; TYR PHOSPHATASE 1; 1. PS50056; TYR_PHOSPHATASE_2; 1. PS50054; TYR_PHOSPHATASE_DUAL;
                                                                                        GGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC-----
MetLeuAspAlaLeuAspIleSerValValIleAsnLeuSerMetThrCysProLysSer
                                            CTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCT
                                                                                                                                        CCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAG
                                                                                                                                                                                                                                                                                 GlyGlyPheLysGlnPheAlaGlnGlnTyrProGlnLeuCysGluSerSerGluGlyMet
                                                                                                                                                                                       ThrArgLeuProGlnSerLeuSerGlnProCysLeuSerGlnProThrGlyAsp---Gly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (Rel. 35, Created)
(Rel. 35, Last sequence update)
(Rel. 42, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                200
92
351
465
483
224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DSPc;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   . 42, Last annotation update)
phosphatase vhp-1 (EC 3.1.3.48).
                                                                                                                                                                                                                                                                                                                                                                                                                          5.09e-34
450.00
69.66%
50.56%
27.66%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                269
95
354
472
488
224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  66354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROTEIN-TYROSINE PHOSPHATASE.
POLY-SER.
POLY-SER.
POLY-SER.
POLY-SER.
POLY-SER.
POLY-SER.
POLY-SER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  369E326F615D0529
                                                                                                                                                                                                                                                                                                                                                                                                                                              Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          phosphate + H(2)0 =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CRC64;
                                                                                                                                                                                                                                                                                                                                                                              (1-619)
                                                                                                                                                                                                                                                                                                                                                                                                                             619
90
34
48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                XB)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                           534
                                                                                                                                                                                                                                     474
                                                                                                                                                                                                                                                                                    118
                                                                                            157
                                                                                                                                                                                       137
                                                                                                                                                                                                                                                                                                                                  420
```

```
DUSAGE BEAUTY

DESCRIPTION

ACCUMENTS

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCRIPTION

DESCR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN=White leghorn;
MEDLINE=20379359; PubMed=10918612;
Fu S.-L., Waha A., Vogt P.K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q9M71;

16-OCT-2001 (Rel. 40, Created)

16-OCT-2001 (Rel. 40, Last sequence update)

10-OCT-2003 (Rel. 42, Last annotation update)

Dual specificity protein phosphatase 4 (EC 3.1.3.48) (

Mitogen-activated protein kinase phosphatase-2) (MAP

phosphatase-2) (MKP-2).
                                                                                                                                                                                           EMBL;
                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            transformed by v-Jun.";
Oncogene 19:3537-3545(2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gallus gallus (Chicken).
Eukaryota; Metazoa; Chor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CHICK
                                                                                                                                                                                                                                                         or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ÷
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Archosauria; Aves;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DUSP4 OR MKP2.
                                                                                                                                                                         ISSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Identification and characterization
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SIMILARITY: Belongs to the protein-tyrosine phy Non-receptor class dual specificity subfamily. SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FUNCTION: Regulates mitogenic signal transduction by dephosphorylating both Thr and Tyr residues on MAP kind and ERKZ (By similarity).

CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              phosphate.
SUBCELLULAR LOCATION: Nuclear (By similarity)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tyrosine + phosphate.
CATALYTIC ACTIVITY: A phosphoprotein + H(2)O =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CHICK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               832 AGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         595
                                                                                                                                                                    AF167296; AAD46656.1;
Q16828; 1MKP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ValCysIIeLysGluAspLysAsnPheMetArgIIeProValAsnAspSerTyrGlnGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ArgProSerIleSerProAsnPheAsnPheMetGlyGlnLeuLeuGluTyrGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LysLysCysLeuIleHisCysLeuAlaGlyIleSerArgSerProThrLeuAlaIleSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LysLeuSerProTyrPheProMetAlaTyrGluPheLeuGluLysCysArgArgAlaGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TyrīleMetArgTyrMetLysMetGlySerAspAspAlaTyrArgTyrValLysGluArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACTTTATCCCCGAG---TCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Neognathae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chordata;
                                                                                                                                                                                                 .'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Craniata; Vertebrata; Eutei; Galliformes; Phasianidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of genes upregulated in cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      phosphatase family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (EC 3.1.3.16)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       kinases ERK1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Phasianinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   I$
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            257
```

Pfam; Pfam;

PF00782; PF00581;

DSPc; 1. Rhodanese;

InterPro; IPR000340; DS phosphatase. InterPro; IPR008343; MAFK phosph. InterPro; IPR001763; Rhodanese-like. InterPro; IPR000387; TYR_phosphatase

```
S
                                         밁
                                                                Ś
                                                                                           B
                                                                                                                  á
                                                                                                                                                맑
                                                                                                                                                                    Ś
                                                                                                                                                                                                  밁
                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                          뮍
                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-029-345A-108_COPY_538_1443 (1-906) x DUS4_CHICK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Alignment Scores: Pred. No.: Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DR DR DR FT FT SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SMART; SM00195; DSPG; 1.

SMART; SM00450; RHOD; 1.

SMART; SM00450; RHOD; 1.

PROSITE; PS50206; RHODANESE 3; 1.

PROSITE; PS50383; TYR PHOSPHATASE 2; 1.

PROSITE; PS50054; TYR PHOSPHATASE DUAL; 1.

PROSITE; PS50054; TYR PHOSPHATASE DUAL; 1.

PHOGRAIN 25 143

DOMAIN 25 143

PROTEIN-TYROE

BOMAIN 178 375

PROTEIN-TYROE

PHOSPHOCYSTE;

PROSPHOCYSTE;

PROSPHOCYSTE;

PROTEIN-TYROE

PHOSPHOCYSTE;

PROTEIN-TYROE

PHOSPHOCYSTE;

PROTEIN-TYROE

PHOSPHOCYSTE;

PROTEIN-TYROE

PHOSPHOCYSTE;

PROTEIN-TYROE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                           204
                                                                                                                                             184
                                                                                                                                                                      496
                                                                                                                                                                                                164
                                                                                                                                                                                                                          451
                                                                                                                                                                                                                                                     146
                                                                                                                                                                                                                                                                             418
                                                                                                                                                                                                                                                                                                        126
                                                                                                                                                                                                                                                                                                                                  358
                                                                                                                                                                                                                                                                                                                                                            106
                                                                                                                                                                                                                                                                                                                                                                                     304
                                                                                                                                                                                                                                                                                                                                                                                                                                         244
                                                                                                                                                                                                                                                                                                                                                                                                               86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10
TCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTA
                        TyrLysCysIleProvalGluAspAsnHisLysAlaAspIleSerSerTrpPheMetGlu
                                                 TTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAA 675
                                                                           ThrAlaLeuLeuAsnValSerSerAspCysProAsn---HisPheGluGlyHisTyrGln
                                                                                              GGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCCGAGTCTCAT
                                                                                                                                                   CTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATT
                                                                                                                                                                                   PheSerSerCysGlyThrProLeuHisAspGlnGlyGlyProValGluileLeuProPhe
                                                                                                                                                                                                      -----TGC---TTACCTGTTGCCAACATT---GGGCCAACCCGAATTCTTCCCAAT
                                                                                                                                                                                                                                     LysThrLeu-----SerSerIleSerProProSerSerAlaGluSerLeuAspLeuGly
                                                                                                                               LeuTyrLeuGlySerAlaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGlyile
                                                                                                                                                                                                                                                                     TCCACTCTAGTCCCTACCTGCATTTCTCAGCCT
                                                                                                                                                                                                                                                                                       LeuLeuAladiyGlyTyrGluArgPheAlaSerGluTyrProGluPheCysAlaLysThr
                                                                                                                                                                                                                                                                                                                  CTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGGCCTCTGTGAAGGAAAA
                                                                                                                                                                                                                                                                                                                                           SerThrValAlaLeuValLeuArgAlaLeuArgArgAspMetAlaArgAlaAspIleArg
                                                                                                                                                                                                                                                                                                                                                                       TGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC----AACTCTGTTCAC
                                                                                                                                                                                                                                                                                                                                                                                               TyrThrAlaValValLeuTyrAspGluArgSerProArgAlaGluAlaLeuArgAspAsp
                                                                                                                                                                                                                                                                                                                                                                                                                         TTAATTACAGAGCTCATC----CAGCATTCAGCGAAACATAAGGTTGACATTGATTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GluMetGluGlySerAlaLeu-----ArgArgLeuValGlyArgGluGluAlaSerGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAAAGTGGAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlyArgCysLeuLeuLspCysArgProPheLeuAlaHisSerAlaGlyHisileArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCCCACATTTTG
::: ||||||:::|| |||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PR01764; MAPKPHPHTASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ΑA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2.79e-32
431.00
53.99%
33.23%
26.49%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            41052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROTEIN TYROSINE PHOSPHATASE. PHOSPHOCYSTEINE INTERMEDIATE SIMILARITY),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     179290D0C2BEEEF1 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ٠
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (1-375)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                375
104
65
120
24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (BY
                                                                                                                                                           555
                                                                                                                                                                                   183
                                                                                                                                                                                                              495
                                                                                                                                                                                                                                       163
                                                                                                                                                                                                                                                                  450
                                                                                                                                                                                                                                                                                                                    417
                                                                                                                                                                                                                                                                                                                                               125
                                                                                                                                                                                                                                                                                                                                                                                                 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                    85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26
```

```
RY DEBUGNICE FROM N.A.

RC TISSUESSKIN, and Uterus;

RX MEDLINE=22388257; PubMed=12477932;

RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

RA Strausberg R.L., Feingold E.A., Grouse L.H., Shenmen C.M., Schuler G.D.,

RA Alteschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Alteschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

RA Robak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Rabesley R.W., Touchman J.W., Green E.J., Lu X., Gibbs R.A.,

RA Hopkins A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,

"Generation and initial analysis of more than 15,000 full-length

RI Holling R. R. M., Touchman J.W., Green E.D., Dickson M.C.,

RA Scharcch A., Schein J.E., Jones S.J.M., Marra M.A.,

"Generation and initial analysis of more than 15,000 full-length

RI Hopkins A., Shein J.E., Jones S.J.M., Marra M.A.,

"Generation and mouse cDNA sequences.",

"Generation and mouse cDNA sequences.",

"Generation and mouse cDNA sequences.",

"Generation by M. M. S. S., M. S., M. S., M. S., M. S., M. S., 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 11
DUS4_HUMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뮰
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=96198119; PubMed=8626452; Chu Y., Soleki P.A., Khosravi-Far R., Der C.J., Kelly K.; The mitogen-activated protein kinase phosphatases PAC1, MKP-1, MKP-2 have unique substrate specificaties and reduced activity joward the ERK2 sevenmaker mutation.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DUS4 HUMAN STANDARD, PRT; 394 AA.
Q13115; Q13524;
01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 4 (EC 3.1.3.48) (EC 3.1.3.16)
(Mitogen-activated protein kinases phosphatase-2) (MAP kinase phosphatase-2) (MKP-2) (Dual specificity protein phosphatase hVH2)
DUSP4 OR MKP2 OR VH2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. MEDLINE=95221370; Guan K.-L., Butch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein kinase.",
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens (Human).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Isolation and characterization of a nove WH2, which selectively dephosphorylates
  FUNCTION: Regulates mitogenic signal dephosphorylating both Thr and Tyr r
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Biol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ne ERK2 sevenmaker mutation.";
Chem. 271:6497-6501(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerPheMetGlyGlnLeuLeuGlnPheGluSerGlnVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ||||::::::|||:::
| LysLeuGluLysAlaPheGluPheValLysGlnArgArgSerIleIleSerProAsnPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCTTTAGATGAAGCTTACAGATTTGTGAAAGAAAAAAGCCTACTATATCTCCAAACTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    270:7197-7203 (1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PubMed=7535768;
E.;
Tyr residues on MAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      dual specific phosphatase,
he mitogen-activated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        315
  kinases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            , and in vi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      795
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                           5
                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                               ঠ
                                                                                                                                                                                                                                                                                                        US-10-029-345A-108_COPY_538_1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             문
                                                                                               ঠ
                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MIM; 602747; -.

GO; GO:0005334; C:nucleus; TAS.

GO; GO:0008330; F:protein tyrosine/threonine phosphatase acti.

GO; GO:0000165; P:MAPKUX cascade; TAS.

GO; GO:0006470; P:protein amino acid dephosphorylation; TAS.

InterPro; IPR00340; DS:phosphatase.

InterPro; IPR00340; DS:phosphatase.

InterPro; IPR00343; MAPK phosph.

InterPro; IPR001763; Rhodanese-like.

InterPro; IPR001763; TYR phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
ACT_SIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE; PS50266; RHODANESE 3; 1.
PROSITE; PS00383; TYR PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR_PHOSPHATASE_2; 1.
PROSITE; PS50054; TYR_PHOSPHATASE_DUAL;
PHOSPHATASE; Nuclear protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam; PF00782; DSPc; 1.
Pfam; PF00581; Rhodanese; 1.
PRINTS; PR01764; MAPKPHPHTASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; U21108; AAA85119.1; -.
EMBL; U48807; AAC50452.1; -.
EMBL; BC002671; AAH02671.1; -.
EMBL; BC014565; AAH14565.1; -.
HSSP; Q16828; 1MKP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SMART; SM00195; DSPc;
SMART; SM00450; RHOD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Genew;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 I_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY: Belongs to the protein-tyrosine phosphatase Non-receptor class dual specificity subfamily. SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     phosphate.
SUBCELLULAR LOCATION: Nuclear.
SIMILARITY: Belongs to the pro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CATALYTIC ACTIVITY: A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)0 =
                     198
                                                            65
                                                                                                                                                 45
                                                                                                                                                                                        78
                                                                                                                                                                                                                                 26
                                                                                                                                                                                                                                                                      45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HGNC:3070; DUSP4.
                                                                                                                                                                                     GlyGlyAlaGlyGly-SerGlySerHisGlyThrLeuGlyLeuProSerGlyGlyLysCy
                                                                                                                                                                                                                                                                   GGTGGCTCTGCTGGAAAGTGGAACGGAA-----
                   AGAGCTCATC----
                                                            lAsnValArgCysAsnThrIleValArgArgArg---AlaLysGlySerValSerLeuGl
                                                                                                     TAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTAC
                                                                                                                                            sLeuLeuLeuAspCysArgProPheLeuAlaHisSerAlaGlyTyrIleLeuGlySerVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       197
197
280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ŗ,
                                                                                                                                                                                                                                                                                                                                                                         6.65e-32
427.00
53.85%
32.69%
26.24%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       394
280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          42953
                   CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          phosphoprotein + H(2)O =
                                                                                                                                                                                                                                                                                                          (1-906) x DUS4_HUMAN (1-394)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROTEIN-TYROSINE PHOSPHOCYSTEINE 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RHODANESE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -> G (IN REF. 2)
0603971759B6952E
                                                                                                                                                                                                                                                                                                                                                      Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                        Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                               Conservative: Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INTERMEDIATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                      394
102
66
113
31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           XB)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein
                                                                                                                                                                                                                                                      -aaagt
                                                              84
                                                                                                                                              65
                                                                                                                                                                                        137
                                                                                                                                                                                                                               45
                                                                                                       197
RESULT DUS1_MM DIST MESULT DUS1_MM DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST MESULT DIST ME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                               P28363;

D1_DEC-1992 (Rel. 24, Created)

O1_DEC-1992 (Rel. 24, Last sequence update)

O1_DEC-1992 (Rel. 43, Last annotation update)

15_MAR-2004 (Rel. 43, Last annotation update)

Dual specificity protein phosphatase 1 (EC 3.1.3.48)

(MAP kinase phosphatase-1) (MKP-1) (Protein-tyrosine 3CH134) (Protein-tyrosine bhosphatase ERP).

DUSP1 OR PTPN110 OR MKP1 OR 3CH134 OR PTPN16.
                                                                                                                                                                                                                                                                                                                                                                                                                                        MOUSE
    Charles C.H., Abler A.S., Lau L.F.; "CDNA sequence of a growth factor-inducible characterization of its encoded protein."; Oncogene 7:187-190(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                       1SDQ
                                                                                STRAIN=BALB/c;
MEDLINE=92158357; PubMed=1741163;
                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                        Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                NCBI_TaxID=10090
                                                                                                                                                                                                                                                                                                                                                                                                                       MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCTGGGCCAACTCCTGGACTATGAGAAGAAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGATGAAGCTTACAGATTTGTGAAAGAAAAAAAGACCTACTATATCTCCAAACTTTCAATTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         yIleSerArgSerAlaThrIleCysLeuAlaTyrLeuMetMetLysLysArgValArgLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GATCTCCCGCTCCGCCACCATCGCCTATCGCCTACATCATGAAGAGGATGGACATGTCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ::::::|||:::
eGluTyrIleAspAlaValLysAspCysArgGlyArgValLeuValHisCysGlnAlaGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGATTTCATTGAGAAAAGCAAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAATCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          aLeuLeuAsnValSerSerAspCysProAsn---HisPheGluGlyHisTyrGlnTyrLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rSerCysGlyThrProLeuHisAspGlnGlyGlyProValGluIleLeuProPheLeuTy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               uAlaAlaIleProProProValProProSerAlaThrGluProLeuAspLeuGlyCysSe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sGlyGlyTyrGluArgPheSerSerGluTyrProGluPheCysSerLysThrLysAlaLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   aValIleValTyrAspGluArgSerProArgAlaGluSerLeuArgGluAspSerThrVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          uGluGluAlaPheGluPheValLysGlnArgArgSerIleIleSerProAsnPheSerPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sCysIleProValGluAspAsnHisLysAlaAspIleSerSerTrpPheMetGluAlaIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rLeuGlySerAlaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGlyIleThrAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1SerLeuValValGlnAlaLeuArgArgAsnAlaGluArgThrAspIleCysLeuLeuLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC----AACTCTGTTCACCTGCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -TGC---TTACCTGTTGCCAACATT---GGGCCAACCCGAATTCTTCCCCAATCTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTCCCTACCTGCATTTCTCAGCCT------
                                                                                                                                                                                        Sciurognathi;
                                                                                                                                                                                                             Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                       367
                                                                                                                                                                                                                                                                                                                                                                                                                       ₿
                                           immediate early gene
                                                                                                                                                                                        Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         334
                                                                                                                                                                                          Murinae;
                                                                                                                                                                                                                                                                                             phosphatase
                                                                                                                                                                                                                                                                                                                   OB
OB
                                                                                                                                                                                                                                                                                                                 3.1.3.16)
                                                                                                                                                                                            Mug
                                             and
```

800

1144 425 1164 450 1184 450 204 204 204 224 224 224 23 243 263 263 2740

303

```
MGD; MGI:105120; Dusp1.

InterPro; IPR000340; Ds phosphatase.

InterPro; IPR000343; MAFK phosph.

InterPro; IPR001763; Rhodanese-like.

InterPro; IPR000387; TYR phosphatase.

Pfam; PF00782; DSPC; 1.

PRNNTS; PR01764; MAPKHPHTASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RC STRAIN=Czech II; TISSUE=Mammary gland;
RX MEDLINE-22388257, pubMed=12477932;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heich F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Blakesley R. W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
Generation and initial analysis of more than 15,000 full-length
RT human and mouse CDNA sequences.";
RT proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                  EMBL; X61940; CAA43944.1;
EMBL; S64851; AAB27882.1;
EMBL; B606567; AAH06967.1;
PIR; A54661; S24411.
HSSP; Q16828; IMKP.
                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on use by non-profit institutions as long as its content is in no way entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                phosphate.
-i- INDUCTION: By growth factors.
-i- SIMILARITY: Belongs to the protein-tyrosine phosphatase
Non-receptor class dual specificity subfamily.
-i- SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=94037096; PubMed=8221888; Sun H., Charles C.H., Lau L.F., Tonks N.K.; "MKP-1 (3CH134), an immediate early gene product, specificity phosphatase that dephosphorylates MAP Cell 75:487-493(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CHARACTERIZATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Noguchi T., "Structure,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              [2]
SEQUENCE FROM N.A.
TISSUE=Liver;
MEDLINE=93360956; PubMed=8355678;
                                                                                                                                                                                                                                                                                                                                                                                                            FUNCTION: Dual specificity phosphatase that dephosphorylates MAP kinase ERK2 on both Thr-183 and Tyr-185.

CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)O = protein CATALYTIC ACTIVITY: A phosphoprotein + H(2)O = a protein +
     PR01764; MAPKPHPHTASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 chi T., Metz R., Chen L., Mattei M.-G., Carrasco D., Bravo R., ucture, mapping, and expression of erp, a growth factor-inducible encoding a nontransmembrane protein tyrosine phosphatase, and cell Biol. 13:5195-5205(1993).
                                                                                                                                                                            CAA43944.1; -.
AAB27882.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                is a du
kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               dual
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            in vivo.";
                                                                                                                                                                                                                                                                                                                                                                   family.
Ś
                                멍
                                                       Ş
                                                                                           밁
                                                                                                                      Ş
                                                                                                                                                      В
                                                                                                                                                                                 δ
                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                             뮍
                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                Ð
                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DR DR DR DR PT FT FT SQ
```

```
US-10-029-345A-108_COPY_538_1443 (1-906) x DUS1_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local S
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
Best Local Similari
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS50206; TYR PHOSEHATASE 2; 1.
PROSITE; PS50056; TYR PHOSEHATASE 2; 1.
PROSITE; PS50054; TYR PHOSEHATASE DUAL; 1.
Hydrolase; Cell cycle.
DOMAIN 175 367 RHODANESE
DOMAIN 175 367 PROTEIN-TYROSINI
ACT_SITE 258 258 PHOSEHOCYSTEINE
MUTAGEN 258 258 C->S: LOSS OF AC
SEQUENCE 367 AA; 39369 MW; 50BFF90FPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         No.:
250 AlaGlyGlyArgValPheValHisCysGlnAlaGlyIleSerArgSerAlaThrIleCys
                                                                                                                                                                                                                                                                                                                                                                                          191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        33
                                     TCCAATGGATGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCACCATCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13
                                                                                                                                 LysAlaAspileSerSerTrpPheAsnGl
                                                                                                                                                          TGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity:
                                                                                                                                                                                                                                ProAsn---HispheGluGlyHisTyrGlnTyrLysSerIleProValGluAspAsnHis
                                                                                                                                                                                                                                                                                         CCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTT
                                                                                                                                                                                                                                                                                                                                                 ||||::::::::
|ArgLysAspMetLeuAspAlaLeuGlyIleThrAlaLeuIleAsnValSerAlaAsnCys
                                                                                                                                                                                                                                                                                                                                                                                          AACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlnGlydiybrovalGluileLeuSerPheLeuTyrLeuGlySerAlaTyrHisAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----GGCCAACCCGAATTCTTCCCAATCTTATCTTGCTGCAGCGAGGAGATGTCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Thr Ser Val ProAsp Ser AlaGlu Ser Gly Cys Ser Ser Cys Ser Thr ProLeu Tyr Asparation (Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProGluLeuCysSerLysGlnSerThr-----ProThrGlyLeuSerLeuProLeuSer 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AlaArgSerThrGlnvalphePheLeuGlnGlyGlyTyrGluAlaPheSerAlaSerCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGGTTGTTTTC 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTTACGATCAAAGCTCCCAAGAT 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LeuAspGlyAlaLysArgAspGlyThrLeuAlaLeuAlaAlaGiyAlaLeuCysArgGlu 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTTGCCTCTCTCTCAGAÇTGTTTTCTCACTGTACTTCTGGGTAAACTG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlyArgLeuLeuAlaGlyAlaTyrHisAlaValValLeuLeuAspGluArgSerAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ArgArgAlaLysGlyAlaMetGlyLeuGluHisIleValProAsnAlaGluLeuArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAGCGAAGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTGGAATACAATACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SM00450;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuargalaLeuLeuargGluGlyAlaAlaGlnCysLeuLeuLeuAspCysargSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTGGTGGCTCTGCTGGAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ΑA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.01e-31
425.00
50.17%
34.32%
26.12%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    367
258
258
39369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RHODANESE.
PROTEIN-TYROSINE PHOSPHATASE.
PHOSPHOCYSTEINE INTERMEDIATE.
C->S: LOSS OF ACTIVITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           50B5F90FEBBD19AB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                              luAlaIleAspPheIleAspSerIleLysAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (1-367)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        367
104
48
129
22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -GAG 336
                                                                                                                                                                          705
                                                                                                                                                                                                                                                                                            645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             102
```

```
THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=95301550; Pubmed=7782322;

Misra-Press A., Rim C.S., Yao H., Roberson M.S., Stork P.

Misra-Press A., Rim C.S., Yao H., Roberson M.S., Stork P.

Misra-Press A., Rim C.S., Yao H., Roberson M.S., Stork P.

Misra-Press A., Rim C.S., Yao H., Roberson M.S., Stork P.

Misra-Press A., Rim C.S., Yao H., Roberson M.S., Stork P.

Misra-Press A., Rim C.S., Yao H., Roberson M.S., Stork P.

Misra-Press A., Rim C.S., Yao H., Rimase phosphatase phosphorylating both Thr and Tyr residues on MAP kind RK2 (By similarity).

Misra-Press A., Rim C.S., Yao H., Roberson Phosphate H. (2) P.

Misra-Press A., Rim C.S., Yao H., Roberson M.S., Stork P.

Misra-Press A., Rim C.S., Yao H., Rimase phosphate Phosphate

Misra-Press A., Rim C.S., Yao H., Roberson M.S., Stork P.

Misra-Press A., Rim C.S., Yao H., Roberson M.S., Stork P.

Misra-Press A., Rim C.S., Yao H., Roberson M.S., Stork P.

Misra-Press A., Rim C.S., Yao H., Rimase phosphatase. Stork P.

Misra-Press A., Rim C.S., Yao H., Rimase phosphatase. Stork P.

Misra-Press A., Rim C.S., Yao H., Rimase phosphatase. Stork P.

Misra-Press A., Rim C.S., Yao H., Rimase phosphatase. Stork P.

Misra-Press A., Rim C.S., Yao H., Rimase phosphatase. Stork P.

Misra-Press A., Rim C.S., Yao H., Rimase phosphatase. Stork P.

Misra-Press A., Rim C.S., Yao H., Rimase phosphatase. Stork P.

Misra-Press A., Rim C.S., Yao H., Rimase phosphatase. Stork P.

Misra-Press A., Rim C.S., Yao H., Rimase phosphatase. Stork P.

Misra-Press A., Rim Rimase phosphatase. Stork P.

Misra-Press A., Rim Rimase phosphatase. Stork P.

Misra-Press A., Rim Rimase phosphatase. Stork P.

Misra-Press A., Rim Rimase phosphatase. Stork P.

Misra-Press A., Rim Rimase phosphatase. Stork P.

Misra-Press A., Rim Rimase phosphatase. Stork P.

Misra-Press A., Rim Rimase phosphatase. Stork P.

Misra-Press A., Rim Rimase phosphatase. Stork P.

Misra-Press A., Rim Rimase phosphatase. Stork P.

Misra-Press A., Rim Rimase Phosphatase. Stork P.

Misra-Press A., Rim Rimase Phosphatase. Stork P.

Misra-Press A., Rim Rimase Phosphatase. 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collabora between the Swiss Institute of Bioinformatics and the EMBL outstati the European Bioinformatics Institute. There are no restrictions on use by non-profit institutions as long as its content is in no modified and this statement is not removed. Usage by and for commer entitles requires a license agreement (See http://www.isb-sib.ch/annou or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DUS4 RAT STANDARD; PRT; 395 AA. 062767; 062767; 15-JUL-1999 (Rel. 38, Created) 15-JUL-1999 (Rel. 38, Last sequence update) 10-OCT-2003 (Rel. 42, Last annotation update) 10-OCT-2003 (Rel. 42, Last annotation update) 10-OCT-2003 (Rel. 42, Last annotation update) (MCC 3.1.3.48) (EC 3.1.6) (MICOGENERAL EXTERNAL PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY 
                                                                     Pfam; PF00782; DSPc; Pfam; PF00581; Rhodan
                                                                                                                                                                                                                                                                    EMBL; U23438; AAC52493.1; -. HSSP; Q16828; 1MKP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE=Pheochromocytoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rattus norvegicus (Rat).
                                                                                                                                                                                                      InterPro;
                                                                                                                                           interPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerGlnVal 312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGAAGATT 894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlnArgArgSerIleIleSerProAsnPheSerPheMetGlyGlnLeuLeuGlnPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATCGCCTACATCATGAAGAGGGATGGACATGTCTTTAGATGAAGCTTTACAGATTTTGTGAAA
                                                                                                                         IPR000340; DS_phosphatase.
IPR008343; MAPK_phosph.
IPR001763; Rhodanese-like.
IPR000387; TYR_phosphatase
                                                                  Rhodanese; 1.
                               MAPKPHPHTASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                     (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           phosphate + H(2)O =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              n M.S., Stork
phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (EC 3.1.3.16)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Structure,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 kinases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ERKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 885
                                                S
                                                                                                                                맑
                                                                                                                                                                                                                                                                                                                         á
                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local S
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SQ ST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               No . :
272
                                                              703
                                                                                                                                252
                                                                                                                                                                                                                                                                 233
                                                                                                                                                                                                                                                                                                                               583
                                                                                                                                                                                                                                                                                                                                                                                                  213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.41e-31
423.50
52.30%
32.24%
26.03%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             43187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WW;
```

```
US-10-029-345A-108_COPY_538_1443 (1-906) x DUS4_RAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SMART; SM00450; RHOD; 1.

PROSITE; PS50206; RHODANESE 3; 1.

PROSITE; PS50383; TYR PHOSPHATASE 2; 1.

PROSITE; PS50056; TYR PHOSPHATASE 2; 1.

PROSITE; PS50054; TYR PHOSPHATASE_DUAL; 1.

Hydrolase; Nuclear protein.

Hydrolase; Nuclear protein.

DOMAIN 198 395 PROTEIN-TYROS

DOMAIN 198 395 PROTEIN-TYROS

DOMAIN 198 395 PHOSPHOCYSTEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     220 AAACATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAA 279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      166 CGAAGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATC-----CAGCATTCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               56 AlaHisSerAlaGlyTyrIleArgGlySerValAsnValArgCysAsnThrIleValArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             38 LeuGlyLeuLeuSerGlyGly-----LysCysLeuLeuLeuAspCysArgProPheLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     46 GTGGCTCTGCTGGAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTG
AspCysArgGlyArgValLeuValHisCysGlnAlaGlyIleSerArgSerAlaThrIle
                                                                                                                                                                                                                                                                                                                                                                               AlaArgArgAspMetLeuAspAlaLeuGlyIleThrAlaLeuLeuAsnValSerSerAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAATACAATACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAG
                                                              GCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCCCACCATC
                                                                                                                                                                                                                                                                                                                                                                                                                              CTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ProProSerThrAsnGluSerLeuAspLeuGlyCysSerSerCysGlyThrProLeuHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 analaGluArgThrAspIleCysLeuLeuLysGlyGlyTyrGluArgPheSerSerGlu
                                                                                                                             HisLysAlaAspIleSerSerTrpPheMetGluAlaIleGluTyrIleAspAlaValLys
                                                                                                                                                                                            TTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAA
                                                                                                                                                                                                                                                        CysProAsn---HisPheGluGlyHisTyrGlnTyrLysCysIleProValGluAspAsn
                                                                                                                                                                                                                                                                                                                    TGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTACCTGTTGCCAACATT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TyrProGluPheCysSerLysThrLysAlaLeu-----AlaAlaIleProProProVal 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTCCCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ArgAlaGluSerLeuArgGluAspSerThrValSerLeuValValGlnAlaLeuArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GATGTTGCCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ArgAlaArgLeuArgSerGlyLeuTyrSerAlaValIleValTyrAspGluArgSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |||||||
| ArgArg---AlaLysGlySerValSerLeuGluGlnIleLeuProAlaGluGluGluVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGCTTC-----AACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGGCCAACCCGAATTCTTCCCCAATCTTTATCTTGGCTGCCAGCGAGATGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROTEIN-TYROSINE PHOSPHOCYSTEINE I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A90EFFD378A050FD CRC64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              E PHOSPHATASE.
INTERMEDIATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (1-395)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             395
98
61
118
27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 1 1 1 1 1
```

94 219 75 165 ទ

702

642

212

453 154 393 134 339

```
DUS2_HUI

JUS2_HUI

JUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_HUI

DUS2_H
                                                                                                                             RX MEDILINE=2081; PubMed=12477932;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shemmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsleh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Richards S., Morley K.C., Hale S., Garcia A.M., Gay L.J., Hulahy S.J.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulahy S.J.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Hitting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
"Generation and initial analysis of more than 15,000 full-length
"Generation and mouse cDNA sequences.",
CC Jeth C. Atl. Acad. Sci. U.S.A. 99:16899-16903 (2002).
CC Generation by CC ERKI and ERK2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    음 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SBÓUENCE FROM N.A.

MEDLINE=96070437; PubMed=7590752;

Yi H., Morton C.C., Weremowicz S., McBride O.W., Kelly K.;

"Genomic organization and chromosomal localization of the DUSP2 gene,

encoding a MAP kinase phosphatase, to human 2p11.2-q11.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=B-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=93206122; PubMed=7681221; Rohan P., Davis P., Moskaluk C.A., Kearns Siebenlist U., Kelly K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "PAC-1: a mitogen-induced nuclear Science 259:1763-1766(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (Dual specificity pro
DUSP2 OR PAC1.
Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DUS2 HUMAN
Q05923;
01-FEB-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-FEB-1994 (Rel. 28, Created)
01-FEB-1994 (Rel. 28, Last sequence update)
15-MAR-2004 (Rel. 43, Last annotation update)
Dual specificity protein phosphatase 2 (EC 3.1.3.48)
[Dual specificity protein phosphatase PAC-1].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates;
                                          CATALYTIC ACTIVITY: Protein tyrosine tyrosine + phosphate CATALYTIC ACTIVITY: A phosphoprotein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9606;
phosphate.
SUBCELLULAR LOCATION: Nuclear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAAGAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTAT 882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GluSerGlnVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAGAAGAAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CysLeuAlaTyrLeuMetMetLysLysArgValArgLeuGluGluAlaPheGluPheVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein tyrosine phosphatase.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 314 AA
                                                                                     phosphate + H(2)0 = protein
                                    H(2)0 ≈ a protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Krutzsch H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (EC 3.1.3.16)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        822
```

```
밁
                                                            Ş
                                                                                   맑
                                                                                                       Ş
                                                                                                                                    밁
                                                                                                                                                      Ş
                                                                                                                                                                                   뮍
                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                US-10-029-345A-108_COPY_538_1443 (1-906) x DUS2_HUMAN (1-314)
                                                                                                                                                                                                                                                                                                                                                    Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                      Score:
                                                                                                                                                                                                                                                                                                                           Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 No.:
                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS50206; RHODANESE 3, 1.
PROSITE; PS00383; TYR PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR PHOSPHATASE DUAL; 1.
PROSITE; PS50054; TYR PHOSPHATASE DUAL; 1.
Hydrolase; Nuclear protein; 3D-structure.
                                                                                                                                                                                                                                                                                                                                                                         ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPC; 1.
SMART; SM00455; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; L11329; AAA50779.1; -.
EMBL; U23853; AAA86112.1; -.
EMBL; BC007771; AAH07771.1; -.
PIR; A57126; A57126.
PDB; 11KZ; 30-MAY-02.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genew; HGNC:3068; DUSP2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -i- SIMILARITY: Belongs to the protein-tyrosine phosphatase family.
Non-receptor class dual specificity subfamily.
-i- SIMILARITY: Contains 1 rhodanese domain.
     277 CAAGATGTTGCCTCTCTCTCTCAGAC--
                                                          217
                                                                                                          172
                                                                                  65
                                                                                                                45 AlaAlaArgProValProTrpAsnAlaLeuLeuArgArgArgAlaArgGlyProProAla
                                                                                                                                                                                25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE SPECIFICITY: In hematopoietic tissues INDUCTION: By mitogens. SIMILARITY: Belongs to the protein-tyrosine I
                                           GCGAAACATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCC
                                                                  AlaValLeuAlaCysLeuLeuProAspArgAlaLeuArgThrArgLeuValArgGlyGlu
                                                                                                                                            GAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGG----
                                                                                                                                                               GluargThrLeuLeuLeuAspCysArgProPheLeuAlaPheCysArgArgHisValArg
                                                                                                                                                                                    GAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCCCACATTTTG 129
                                                                                         ------TTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCA
                                                                                                                                                                                                                                                                                                                                               314 AA;
                                                                                                                                                                                                                                                                                                                                                                        23
237
257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C:nucleus; TAS.
F:protein tyrosine phosphatase activity; TAS.
F:protein tyrosine/threonine phosphatase acti.
P:inactivation of MAPK; TAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  P:protein amino acid dephosphorylation; TAS
                                                                                                                                                                                                                                                         4.43e-31
418.00
50.83%
35.97%
25.69%
                                                                                                                                                                                                                                                                                                                                              34399 MW;
                                                                                                                                                                                                                                                                                                                                                       PROTEIN-TYROSINE PHOSPHOCYSTEINE I SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                          RHODANESE
                                                                                                                                                                                                                                                                                                                                       FDD3543C6DE10CA5 CRC64;
                                                                                                                                                                                                                                             Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                      ----AlaArgAlaValValLeuAspGluGlySer
                                                                                                                                                                                                                                                                                                                                                             E PHOSPHATASE.
INTERMEDIATE
-TGTTTTCTCACTGTACTTCTG
                                                                                                                                                                                                                                             314
109
45
105
44
                                                                                                                                                                                                                                                                                                                                                               (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a collaboration
                      95
                                             276
                                                                    84
                                                                                           216
                                                                                                                   64
                                                                                                                                                                  44
                                                                                                                                            171
```

```
DUS1-HUMAN
ID DUS1-B
AC P2856
DT 01-DE
DT 01-DE
DT 15-M2
DE DUS1
DE CL100
GN USP1
OC ELLEAS
OC Mamma
OC MAmma
OC MAmma
OC NCB1-
RN [1]
RN [1]
RN ESQUE
RC TISSI
RX MEDLI-
RX Keyes
RT Drocte
RT Drocte
RT Drocte
RT NATU
RN [2]
RP SEQUE
RT NATU
RN [2]
RP SEQUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               유 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              중 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   중 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ş
                                                                                                                                                                                                                                        DUS1 HUMAN STANDARD; PRT; 367 AA.
P28562;
P28562;
01-DEC-1992 (Rel. 24, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
15-MAR-2004 (Rel. 43, Last annotation update)
Dual specificity protein phosphatase 1 (EC 3.1.3.48)
(MAP kinase phosphatase-1) (MKP-1) (Protein-tyrosine CL100) (Dual specificity protein phosphatase hVH1).
DUSP1 OR PTRAIL OR MKP1 OR CL100 OR VH1.
                                                                                                                                                                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                               HUMAN
   SEQUENCE FROM N.A
TISSUE=Brain;
                                               "Oxidative stress and heat shock induce protein-tyrosine phosphatase.";
Nature 359:644-647(1992).
                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                              Homo sapiens (Human)
                                                                                                  Keyes
                                                                                                               MEDLINE=93024952; PubMed=1406996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       156 AspLysThrSerArgSerAspSerArgAlaProValTyrAspGlnGlyGlyProValGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     116 HisGluThrArgAlaGlyProThrAlaValTyrPheLeuArgGlyGlyPheAspGlyPhe
                                                                                                S.M., Emslie E.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     96
                                                                                                                                                                                                                                                                                                                                                                                                                                            ThrGlnVal 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MetValGluIleSerAlaTrpPheGlnGluAlaIleGlyPheIleAspTrpValLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGTGAGAAAATTTTGCCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AlaCysGlyIleThrAlaValLeuAsnValSerAlaSerCysPro------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCCGAGTCTCATTTC-------CTGCGTGTGCCTGTGAATGACAGCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGAAGATT 894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LeuAlaTyrLeuMetGlnSerArgArgValArgLeuAspGluAlaPheAspPheValLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SerGlyGlyArgValLeuValHi8CysGlnAlaGlyIleSerArgSerAlaThrIleCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ----AsnHisPheGluGlyLeuPheArgTyrLysSerIleProValGluAspAsnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IleLeuProTyrLeuPheLeuGlySerCysSerHisSerSerAspLeuGlnGlyLeuGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GlnGlyCysCysProAspLeuCysSerGluAlaProAlaProAlaLeuProProThrGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTCGTTGTTTCCCTGGCCTCTGT---GAAGGAAAATCCACTCTAGTCCCT------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATT---GGGCCAACCCGA
                                                                                                                                                                                               Primates;
                                                                                                                                                                                                             Chordata;
                                                                                                                                                                                            Craniata; Vertebrata; Catarrhini; Hominidae;
                                                                               b
                                                                                 human
                                                                             gene
                                                                                                                                                                                                             Euteleostomi;
                                                                                                                                                                                               Homo
                                                                                                                                                                                                                                                                          (EC 3.1.3.16) phosphatase
                                                                               encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        210
```

```
Percent Similarity:
Best Local Similarity:
                                         Score:
                                                                                                                         Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RA Strausberg R.D., Collins F.S., Wagner L. Shenmen C.M., Schuler G.D., RA Klausner R.D., Collins F.S., Wagner L. Shenmen C.M., Schuler G.D., RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K., RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K., RA Altschul S.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F., RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L., RA Stapleton M.S., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E., RA Stapleton M.J., Usdin T.B., Toshiyuki S., Carninci P. Prange C., RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J., RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J., RA Raha S.S., Loquellano N.A., Peters G.J., Malek J.A., Gunaratne P.H., RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., KRA Pillalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., RA Pahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A., RA Raha S.S., Touchman J.W., Green E.D., Dickson M.C., RA Rodriguez A.C., Grinwood J., Schmutz J., Myers R.M., Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E., Jones S.J.M., Marra M.A., Green E.D., Dickson M.C., RA Rodriguez A.C., Grinwood J., Schmutz J., Myers R.M., Ra Ratifield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E., Jones S.J.M., Marra M.A., Freenzation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences.", Sanchez that dephosphorylates MAP C.C. Catalytic Activity: A phosphatese that dephosphorylates MAP C.C. Catalytic Activity: A phosphate + H(2)O = protein + C.C. Catalytic Activity: A phosphate + H(2)O = a protein + C.C. Catalytic Activity: A phosphate in H(2)O = a protein +
                                                                                                                                                                                                                                                                                                                                                                                  MIN; 600714; ...

GO; GO:0004726; F:non-membrane spanning pr
GO; GO:0006979; P:response to oxidative st
InterPro; IPR000340; DS phosphatase.
InterPro; IPR008343; MAPK phosph.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; TYR phosphatase.
Pfam; PF00782; DSPC; 1.
Pfam; PF00781; Rhodanese; 1.
                                                                                                                                                                                    Hydrolase; Cel
DOMAIN 20
DOMAIN 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/an or send an email to license@isb-sib.ch).
                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                              PROSITE; PS50206; RHODANESE 3; 1.

PROSITE; PS00383; TYR_PHOSPHATASE_1; 1.

PROSITE; PS50056; TYR_PHOSPHATASE_DUAL;

PROSITE; PS50054; TYR_PHOSPHATASE_DUAL;
                                                                                                                                                                                                                                                                                                                                   PRINTS; PR01764; MAPKPHPHTASE. SMART; SM00195; DSPC; 1. SMART; SM00450; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; X68277; CAA48338.1; -.
EMBL; BC022463; AAH22463.1; -
EIR; S29090; S29090.
                                                              No.:
                                                                                                                                                              ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Genew;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=22388257; PubMed=12477932; Strausberg R.L., Feingold E.A., Gr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HSSP; Q16828;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Non-receptor class dual specificity subfamily. SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  phosphate.
INDUCTION: By oxidative stress and heat shock.
SIMILARITY: Belongs to the protein-tyrosine phosphatase family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HGNC:3064; DUSP1.
                                                                                                                             367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1MKP
                                                                                                                           A,
                                                                                                                                                                  cycle.
137
367
258
8.69e-31
415.00
49.50%
33.89%
                                                                                                                             39297
                                                                                                                             ₹.
                                                                                                                                                     RHODANESE.
PROTEIN-TYROSINE PHOSPHATASE.
                                                                                                                                               PHOSPHOCYSTEINE SIMILARITY).
                                                                                                                             11BD1D39A9FCD51F
                                         Length:
Matches:
Conservative: Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein tyrosine stress; TAS.
  367
102
47
134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gh a collaboration -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               phos.
                                                                                                                                                                      YB)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
```

```
뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Дd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-029-345A-108_COPY_538_1443 (1-906) x DUS1_HUMAN (1-367)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match:
DB:
312 Val 312
                          892 ATT 894
                                                   832 AGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAG 891
                                                                                      ||||:::|||:::
272 TyrLeuMetArgThrAsnArgValLysLeuAspGluAlaPheGluPheValLysGlnArg
                                                                                                         712 GGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCCGCTCCGCCACCATCGCTATCGCC 771
                                                                                                                                                                                             652 AAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAAGCCTCCAAT 711
                                                                                                                                                                                                                                                  213 ---HisbheGluGlyHisTyrGlnTyrLysSerTlebrovalGluAspAsnHisLysAla
                                                                                                                                                                                                                                                                                                                                                        592 CCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGTGCATGACAGCTTTTGTGAG 651
                                                                                                                                                                                                                                                                                                     193 AspMetLeuAspAlaLeuGlyIleThrAlaLeuIleAsnValSerAlaAsnCysProAsn 212
                                                                                                                                                                                                                                                                                                                        532 GAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAG 591
                                                                                                                                                                                                                                                                                                                                                                                                              153 valproAspSerAlaGluSerGlyCysSerSerCysSerThrProLeuTyrAspGlnGly 172
                                                                                                                                                                                                                                                                                                                                                                                                                                       427 GTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATT------- 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  133 ProGluneucysSerLysGlnSerThrProMetGlyLeuSerLeuProLeuSerThrSer 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |||
||| ||||||:::
|||| AlaArgAlaAlaGlnValPhePheLeuLy8GlyGlyTyrGluAlaPheSerAlaSerCys 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           337 AAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTC 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  283 GTTGCCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTG------GAG 336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       223 CATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTÇÇCAAGAT 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         93 LeuAspGlyAlaLysArgAspGlyThrLeuAlaLeuAlaAladiyAlaLeuCysArgGlu 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          163 AAGCGAAGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAA 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              103 GTGGAATACATACATCCCACACTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATG 162
                                   73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                53 ArgArgArgAlaLysGlyAlaMetGlyLeuGluHisIleValProAsnAlaGluLeuArg 72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      33 PheAlaPheAsnAlaGlyHisIleAlaGlySerValAsnValArgPheSerThrlleVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCTGGCCTCTGTGAAGGAAAA------TCCACTCTA 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ::::::
||||||::: |||::: |||
|GlyArgLeuLeuAlaGlyAlaTyrHisAlaValValLeuLeuAspGluArgSerAlaAla 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25.51%
1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 4
```

Search completed: June 21, 2004, 12:35:00 Job time: 17.5253 secs

Ś Ъ δ 밁 Ś 맑 δ B Ś Д δ 뮰 δ 밁 Ş

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Command line parameters:

-MODEL=frame+ n2p, model -DEV=xlp
-MODEL=frame+ n2p, model -DEV=xlp
-MODEL=frame+ n2p, model -DEV=xlp
-Q=/cgn2 1/USPTO_spool_p_/US10029345/runat_21062004_122816_4193/app_query.fasta_1.3278
-DB=SPTREMBL_25 -QFMT=fastan -SUFPIX=rept -MINMATCH=0.1 -LOOPCL=0 -LOOPEXT=0
-UNITS=blts -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi -LIST=45
-DOCALIGN=200 -THR_SCORE=pct -THR_MAX=100 -THR_MN=0 -ALIGN=15 -MODE=LOCAL
-OUTPMT=pto -NORM=ext -HEAPSIZE=500 -MINLEN=0 -MAXLEN=200000000
-USER-US10029345_@CGN 1_1 168 @runat 21062004_122816_4193 -NCPU=6 -ICPU=3
-NO_MMAP -LARGEQUERY -NEG_SCORES=0 -WARIT -DSPBLOCK=100 -LONGLOG
-DEV_TIMEOUT=120 -MARN ITIMEOUT=30 -THREADS=1 -XGAPEXT=0.5 -FGAPOD=6
-DEV_TIMEOUT=120 -MARN ITIMEOUT=30 -THREADS=1 -XGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                           Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Minimum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Post-processing: Minimum Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9::
                                                                                                      Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    멂
                               Score
 1552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 eq
Beq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        •
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein search, using frame_plus_n2p model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Xgapop 10.0
Ygapop 10.0
Fgapop 6.0
Delop 6.0
                     Query
Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           June 21, 2004, 12:28:25; Search time 46.8459 Seconds (without alignments)
                                                                                                                                                                   BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-029-345A-108_COPY_538_1443
1627
                                                                                                                                                                                                                                                                                                                                                                                                                             SPTREMBL_25:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1017041 segs,
   95.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   atggcccatgagatgattgg.....agaagattaagaaccagact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                 sp_organelle:*
sp_phage:*
                                                                                                                                                                               sp_vertebrate:*
sp_unclassified:*
sp_rvirus:*
sp_bacteriap:*
                                                                                                                                                                                                                                                                                                                                              sp_fungi:*
sp_human:*
sp_invertebrate:*
                                                                                                                                                                                                                                                                                                                                                                                        sp_archea:*
sp_bacteria:*
                                                                                                                                                                                                                                                                                                                sp_mhc:*
                                                                                                                                                                                                                                                                                                                                 sp_mammal:*
                                                                                                                                                                                                                                      sp_rodent:*
sp_virus:*
                                                                                                                                                                                                                                                                      sp_plant:*
                                                                                                                                                                sp_archeap:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Match 0%
Match 100%
first 45 summaries
   662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           . . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Xgapext
Ygapext
Fgapext
Delext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             315518202 residues
   QBIVT8
                               ä
                                                                           SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            . . . . . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (without alignments)
12204.244 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2034082
 Q8ivt8 homo sapien
                             Description
 QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRIVIN 1
QRI
                                                                                                                                                                                                                                           Q8IVT8
Q8IVT9;
Q8IVT9;
Q8IVT9;
01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-CCT-2003 (TrEMBLrel. 25, Last annotation update)
01-CCT-2003 (TrEMBLrel. 25, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                              Strausberg R.;
Submitted (DEC-2002) to the EMBL/GenBank/DDBJ databases.
Submitted (DEC-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; BC042101; AAH421011.1; -.
GO; GO:0017017; F:MAP kinase phosphatase activity; IEA.
GO; GO:0006470; P:protein amino acid dephosphorylation;
InterPro; IPR000340; DS phosphatase.
InterPro; IPR000340; DS phosphatase.
InterPro; IPR000343; MAPK phosph.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; Rhodanese-like.
                                                                                                                                                   SEQUENCE FROM N.A. TISSUE=Duodenum;
                                                                                                                                                                                              NCBI_TaxID=9606;
                                                                                                                                                                                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1545
1517
1514
1377.5
1377.5
1172.5
1036
989
985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             411
403.5
403.5
403.5
397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  653.5
472.5
472.5
465
465
440.5
440.5
436
436
437
437
437
437
437
437
437
437
437
                                                                                                                                                                                                                                                                                                                                                                                                                                                         397
382.5
347.5
347.5
325
306
287
285.5
280.5
                                                                                                                                                                                                                                                                                                                                                                                                                                            Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                            400440000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4
4
1
1
1
1
1
1
1
3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1131313
                                                                                                                                                                                                                                                                                                                                                                                                                                           Q96N49
Q99NG6
Q99NG6
Q99NG6
Q99NG5
Q89SS1
Q89SS2
Q85SS2
Q85SS3
Q772L8
Q89NFJ0
Q89NFJ0
Q89NFJ0
Q89NFJ0
Q89NFJ0
Q89NFJ0
Q81663
Q8179U
Q80XB3
Q8179U
Q80XB3
Q8179U
Q80XB3
Q8179U
Q80XB3
Q8179U
Q91663
Q8179U
Q818FJ0
Q818FJ0
Q818FJ0
Q818FJ0
Q818FJ0
Q818FJ0
Q818FJ0
Q818FJ1
Q818FJ1
Q818FJ1
Q818FJ1
Q818FJ1
Q918W1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NSW1
Q99NW44
                                                                                                                                                                                                             Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OBNÍJO homo sapien
Q71218 brachydanio
Q803b2 brachydanio
Q803b2 brachydanio
Q13649 homo sapien
Q91663 xenopus lae
Q8bfv3 mus musculu
Q91790 xenopus lae
Q804193 rattus sp.
Q802n1 mus musculu
Q631683 rattus norv
Q81395 caenorhabdi
Q42253 gallus gall
Q72v18 brachydanio
Q99kc2 mus musculu
Q8189 mus musculu
Q8189 mus musculu
Q8189 mus musculu
Q81819 mus musculu
Q81819 mus musculu
Q81819 mus musculu
Q81819 mus musculu
Q81819 mus musculu
Q81819 mus musculu
Q81819 forsophila
                                                                                                                                                                                                                                                                                                                                                                                                                                           Q9nsw1 homo sapien
Q9cs15 mus musculu
Q44128 caenorhabdi
Q46122 drosophila
Q9vhv8 drosophila
Q86p14 drosophila
Q8vww4 drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q96qg2 homo sapien
Q8st19 caenorhabdi
Q7ss£3 brachydanio
Q8s313 mus musculu
Q7t219 gallus gall
Q8st18 caenorhabdi
Q8uw48 fugu rubrip
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q96n49 homo sapien
Q920r2 mus musculu
Q99g16 mus musculu
Q99g16 mus musculu
Q805t1 homo sapien
Q99mg5 mus musculu
Q99mg5 mus musculu
Q96s88 homo sapien
Q7tsx9 mus musculu
Q8bze4 mus musculu
                                                                              IEA
```

```
Alignment Scores:
Pred. No.:
Score:
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                           Ъ
                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                             ₽
                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                            US-10-029-345A-108_COPY_538_1443 (1-906) x Q8IVT8 (1-662)
                                                                                                                                                                                                                                                                                                                                                                                               Pfam; PF00581; Rhodanese; 1.

PRINTS; PR01764; MAPKPHPHTASE.

SMART; SM00195; DSPC; 1.

SMART; SM00450; RHOD; 1.

PROSITE; PS50206; RHODANESE_3; 1.

PROSITE; PS50383; TYR_PHOSPHATASE_1; 1.

PROSITE; PS5056; TYR_PHOSPHATASE_2; 1.

PROSITE; PS50054; TYR_PHOSPHATASE_DUAL; 1.

SEQUENCE 662 AA; 72818 MW; 350534EF0652B98F CRC
                                            221
                                                       661
                                                                    201
                                                                               601
                                                                                           181
                                                                                                      541
                                                                                                                  161
                                                                                                                             481
                                                                                                                                         141
                                                                                                                                                    421
                                                                                                                                                                 121
                                                                                                                                                                            361
                                                                                                                                                                                                    301
                                                                                                                                                                                        101
                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                               81
                                                                                                                                                                                                                                                                         121
           CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                             41
21
                                                          13
                                                                                CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                        CACATTITGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                    HisileLeuGiuAlaileAsnileAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                           ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                             8.93e-151
1552.00
99.67%
99.34%
95.39%
                                                                                                                                                                                                                                                                                                                                         Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                  Watches:
                                                                                                                                                                                                                                                                                                                                                                                       CRC64;
                                                                                                                                                                                                                                                                                                                                         004
                                                                                                                                                                                                                                                                                                                                                                662
300
840
                       780
                                    240
                                               720
                                                           220
                                                                                                         180
                                                                                                                     540
                                                                      660
                                                                                 200
                                                                                              600
                                                                                                                                 160
                                                                                                                                            480
                                                                                                                                                        140
                                                                                                                                                                   420
                                                                                                                                                                                                      100
                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                    20
                                                                                                                                                                                                                                                                                                               60
```

Ś

Ş

Ś 밁 Ś 멍 Ś 밁 Ş В Ş 밁 Ś В Ş В δ 밁

```
뭐
                                                                                     Ş
                                                                                                                                             밁
                                                                                                                                                                                   Ş
                                                                                                                                                                                                               US-10-029-345A-108_COPY_538_1443 (1-906) x Q96N49
                                                                                                                                                                                                                                                                                                                                                                                                                      Alignment s
Pred. No.:
                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                     DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FIDER OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE P
                                                                                                                                                                                                                                                                                                                                                                                                     Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          T "NEDO human cDNA sequencing project.";

21. Submitted (OCT-2001) to the EMBL/GenBank/DDBJ databases.

22. Submitted (OCT-2001) to the EMBL/GenBank/DDBJ databases.

23. RMSI; AKO55973; BAB71060.1; -.

24. RMSSP; Q16828; 1NKP.

25. Q0:0016787; F:hydrolase activity; IEA.

26. Q0:00167017; F:MAP kinase phosphatase activity; IEA.

27. RO:Q0:00167017; F:MAP kinase phosphatase activity; IEA.

28. InterPro; IPR000340; DS_phosphatase.

29. InterPro; IPR000343; MAPK, Phosph.

20. RInterPro; IPR000343; MAPK, Phosph.

21. RInterPro; IPR000387; TYR_phosphatase.

22. RInterPro; IPR000387; TYR_phosphatase.

23. RInterPro; IPR000387; TYR_phosphatase.

24. RINTERPRO; DSPC; 1.

25. RFAM; PF00782; DSPC; 1.

26. RFAM; PF00781; RHOGNAICSE 3; 1.

27. RFAM; PR05174; PS00383; TYR_HOSPHATASE 1; 1.

28. RROSITE; PS00383; TYR_HOSPHATASE 2; 1.

29. RROSITE; PS00383; TYR_HOSPHATASE DUAL; 1.

29. RROSITE; PS50056; TYR_PHOSPHATASE DUAL; 1.

29. RROSITE; PS50054; TYR_PHOSPHATASE DUAL; 1.

20. RROSITE; PS50054; TYR_PHOSPHATASE DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
Q96N49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Tashiro H., Yamazaki M., Watanabe K., Kumagai A., Itakura S., Fukuzumi Y., Fujimori Y., Komiyama M., Sugiyama T., Irie R., Otsuki T., Sato H., Wakamatsu A., Ishii S., Yamamoto J., Isono Y., Kawai-Hio Y., Saito K., Nishikawa T., Kimura K., Yamashita H., Matsuo K., Nakamura Y., Sekine M., Kikuchi H., Kanda K., Wagatsuma M., Murakawa K., Kanehori K., Takahashi-Fujii A., Oshima A., Sugiyama A., Isogai T., Sugano S., Nagahari K., Masuho Y., Nagai K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q96N49;
Q96N49;
01-DEC-2001
01-DEC-2001
01-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Hypothetical protein FLJ31411.
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae
Scores:
                                                                                                                                       \vdash
                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GinThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4.7e-150
1545.00
99.34%
99.01%
94.96%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                  Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Å
                                                                                                                                                                                                                    (1-665)
                                                                                                                                                                                                                                                                      0021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IEA.
                                                    120
     40
                                                                                                         20
                                                                                                                                                        60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   280
```

```
8 8 8 8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ર્
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          & 유
                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   음 중 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       몽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                               Q920R2 PRELIMINARY; PRT; 660 AA.

Q920R2;

Q01-DEC-2001 (TrEMBLrel. 19, Created)

O1-DEC-2001 (TrEMBLrel. 19, Last sequence update)

O1-OCT-2003 (TrEMBLrel. 25, Last annotation update)

MAP kinase phosphatase-7.

N DUSP16 OR 3830417M17RIK OR MKP-7.

Mus musculus (Mouse).

C Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;

C Eukaryota; Butheria; Rodentia; Sciurognathi; Muridae;
SEQUENCE FROM N.A. TISSUE=Cerebellum;
                                      NCBI_TaxID=10090;
                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                    281
                                                                                                                                                                                                                                                                                                                                                            261
                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                           GlnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGACT
                                                                                                                                                                                                                                                                                                  CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerAsnThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGCAGAATGGGATTGGTTATATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                       906
                                                       Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                           update)
                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                            280
                                                                                                                                                                                                                                                                                                                                                                                                                     260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          200
                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best I
Query
DB:
                    δ
                                                        В
                                                                              δ
                                                                                                               뭐
                                                                                                                                   5
                                                                                                                                                                뮍
                                                                                                                                                                                          δ
                                                                                                                                                                                                                      뮍
                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                   멂
                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-029-345A-108_COPY_538_1443 (1-906) x Q920R2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MGD; MGI:1917936; Dusp16.

GO; GO:0005737; C:cytoplasm; IDA.
GO; GO:0005634; C:nucleus; IDA,
GO; GO:0005515; F:protein binding; IPI.
GO; GO:0005515; F:protein binding; IPI.
GO; GO:0005188; P:inactivation of MAPK; III.
InterPro; IPR000340; DS; phosphatase.
InterPro; IPR000340; MAPK, phosph.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; Rhodanese; I.
Pfam; PF00782; DSPC; 1.
Pfam; PF00782; DSPC; 1.
PRINTS; PM01764; MAPKPHPHTASE.
SMART; SM00195; DSPC; 1.
SMART; SM00195; DSPC; 1.
SMART; SM00195; DSPC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=21486429; PubMed=11489891; Kikmasuda K., Shima H., Watanabe M., Kikmasuda K., Shima H., Watanabe M., Kikmasuda K., Shima H., Watanabe M., Kikmasuda K., Shima H., Watanabe M., Kikmasuda K., Watanabe M., Kikmasuda K., Watanabe M., Watanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Kikmasuda K., Sanabe M., Kikmasuda K., Sanabe M., Kikmasuda K., Sanabe M., Kikmasuda K., Sanabe M., Kikmasuda K., Sanabe M., Kikmasuda K., Sanabe M., Kikmasuda K., Sanabe M., Kikmasuda K., Sanabe M., Kikmasuda K., Sanabe M., Sanabe M., Kikmasuda K., Sanabe M., Kikmasuda K., Sanabe M., Kikmasuda K., Sanabe M., Kikmasuda K., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M., Sanabe M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PROSITE; PS50206; RHÓDANESE 3; 1.
PROSITE; PS00383; TYR PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR_PHOSPHATASE_DUAL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hydrolase;
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Match:
                            481
                                                        141
                                                                                      421
                                                                                                                 121
                                                                                                                                            361
                                                                                                                                                                        101
                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                          121
  161
                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                             81
                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                             41
                                                                                                                                                                                                                                                                                                                                                                                                      21
                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                              μ
                                                                                                            GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                           CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                             CysAsnGlnLysValValValTyrAspGlnSerSerG
                                                                                                                                                                                                                                                                                                                                               HisIleI
                                                                                                                                                                                                                                                                                      AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kinase.
660 AA;
                                                                                                                                                                                                                                                                                                                                             LeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3.6e-147
1517.00
98.34%
96.03%
93.24%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  72695 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB609FCDAD4AA309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Kikuchi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               K.;
Kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (1-660)
                                                                                                                                                                                                                               lnAspValGlySerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
5
0
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CRC64;
```

140 140 480 300 100

120

120 40 180 60

```
RT "A Novel MKP is an Important Negative Regulator in Macrophages.";

RACTIVATION in Macrophages.";

REMEL; AF345551; AAK35052.1; -.

DR HSSP; Q16828; IMKP.

BG (G0:0005737; C:CyCoplasm; IDA.

G0; G0:00055134; C:Inucleus; IDA.

G0; G0:0005513; F:protein binding; IPI.

G0; G0:0005513; F:protein binding; IPI.

G0; G0:000518; P:lnactivation of MAPK; IDA.

REMEL; AF34551; RACTIVATION OF MAPK; IDA.

REMEL; AF355034; RACTIVATION OF MAPK; IDA.

REMEL; AF355036; RACDIPATASE 1; 1.

REMOSITE; PS05036; RACDIPATASE 1; 1.

REMOSITE; PS05036; TYR_PHOSPHATASE_1; 1.

REMOSITE; PS05036; TYR_PHOSPHATASE_DUAL; 1.
                                                                                                                                                                                                                                                                                                              유성
                                                                                                                                                                                                                                                                                                                                      Дb
                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                              Вb
                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                         유
                                                                                                                                                                                                  Q99MG6
Q99MG6;
Q99MG6;
Q1-UN-2001 (TrEMBLrel. 17, Cre. 01-UN-2001 (TrEMBLrel. 17, Las. 01-CCT-2003 (TrEMBLrel. 25, Las. Map kinase phosphatase-M Al iso. Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; C1 Mammalia; Eutheria; Rodentia; Sc NCB1 TaxID=10090;
                                                                                                                                                                                 SEQUENCE FROM N.A. STRAIN=BALB/C;
                                                                                                                                                                     Matsuguchi T., Musikacharoen
Yoshikai Y.;
                                                                                                                                                                                                                                                                                                  901
                                                                                                                                                                                                                                                                                                                 281
                                                                                                                                                                                                                                                                                                                            841
                                                                                                                                                                                                                                                                                                                                        261
                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                                                                                                         221
                                                                                                                                                                                                                                                                                                                                                                                                     199
                                                                                                                                                                                                                                                                                                                                                                                                                 201
                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                         GlnThr
                                                                                                                                                                                                                                                                                                       CAGACT 906
                                                                                                                                                                                                                                                                                                                                                       CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                     CCGTGGTTGGACAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                               74550 MW;
                                                                                                                                                                                                                                Last sequence update)
Last annotation update)
isoform.
                                                                                                                                                                     T., Johnson T.R., Kraft A.S.,
                                                                                                                                                                                                                                                 Created)
           8B6D5B7096CEC2FC CRC64;
                                                                                                                                                                                                   Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                             677
                                                                                                                                                                                                                                                             Å
                                                                                                                                                         of LPS-mediated
                                                                                                                                                           ŽX
                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                            840
                                                                                                                                                                                                                                                                                                                                                        260
                                                                                                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                           720
                                                                                                                                                                                                                                                                                                                                                                                                        220
                                                                                                                                                                                                                                                                                                                                                                                                                    660
                                                                                                                                                                                                                                                                                                                                                                                                                                200
          Ś
                        B
                                Ş
                                                밁
                                                         δ
                                                                     Ъ
                                                                                 Ś
                                                                                            뮍
                                                                                                         δ
                                                                                                                       유 &
                                                                                                                                            뫄
                                                                                                                                                         Ş
                                                                                                                                                                    밁
                                                                                                                                                                                  Ş
                                                                                                                                                                                               뫄
                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                 γŞ
                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                              Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                  Alignment
Pred. No.:
Score:
                                                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-108_COPY_538_1443 (1-906) x Q99MG6 (1-677)
301
           901
                                                                                                                                                                                                                                                                                                                                                                                                                                        No.:
                       281
                                   841
                                               261
                                                           781
                                                                       241
                                                                                   721
                                                                                               221
                                                                                                           661
                                                                                                                       201
                                                                                                                                   601
                                                                                                                                                181
                                                                                                                                                           541
                                                                                                                                                                       161
                                                                                                                                                                                   481
                                                                                                                                                                                               141
                                                                                                                                                                                                          421
                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                               101
                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                       81
                                                                                                                                                                                                                                                                                                                                  121
              CAGACT
                                      61
                                                                                                                                                                                                                                                                                                                      41
                                                                                                              21
                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                             Scores:
                                                                                                                                      CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                     ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC 480
                                                                                                                                                                                                              CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                              ArgileLeubroAsnLeufyrLeuGlyCysGlnArgAspValLeuAsnLysAspLeuMet
                                                                                                                                                                                                                                      906
                                                                                                                                                                                                                                                                                                                                                                                                       7.37e-147
1514.00
98.34%
95.70%
93.05%
                                                                                                                                                                                                                                                                                                                                                                                                     Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                   677
289
8
5
0
                                      280
                                                   840
                                                               260
                                                                                       240
                                                                          780
                                                                                                  720
                                                                                                               220
                                                                                                                           660
                                                                                                                                       200
                                                                                                                                                               180
                                                                                                                                                                           540
                                                                                                                                                                                                              140
                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                               100
                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                       80
                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                              60
```

302

유

```
PRESIDENT OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query
DB:
                                                                                                                                                                                                             र्
                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                         밁
                                                                                                                  ð
                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-029-345A-108_COPY_538_1443 (1-906) x Q9AG16 (1-355)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
Best Local Similari
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR000340; DS phosphatase.
InterPro; IPR008343; MAPK phosph.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; TYR phosphatase.
Pfam; PF00782; DSPc; 1.
Pfam; PF00782; DSPc; 1.
Pfam; PF00581; Rhodanese; 1.
PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPc; 1.
SMART; SM00195; DSPc; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Activation in Macrophages.";
Mol. Cell. Biol. 20:6999-7009(2001).
EMBL; AF345953; AAK35054.1; -.
HSSP; Q16828; IMKP.
MGD; MGI:1917936; Dusp16.
GO; GO:0005737; C:cytoplasm; IDA.
GO; GO:0005515; P:protein binding; IPI
GO; GO:000518; P:inactivation of MAPK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q9AG16 PRELIMINARY; PRT; 355 AA.
Q9AG16;
Q1-JUN-2001 (TrEMBLrel. 17, Created)
Q1-JUN-2001 (TrEMBLrel. 17, Last sequence update)
Q1-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Map kinase phosphatase-M B1 isoform.
DUSP16 OR 3830417MI7RIK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROSITE; PS50206; RHODANESE_3; 1.
PROSITE; PS00383; TYR_PHOSPHATASE_1; 1.
PROSITE; PS50056; TYR_PHOSPHATASE_2; 1.
PROSITE; PS50054; TYR_PHOSPHATASE_DUAL;
Hydrolase; Kinase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN-BALB/c;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matsuguchi T., Musikacharoen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          v
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel MKP is an Important Negative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ); MGI:1917936; Dusp16.
GO:0005737; C:cytoplasm; IDA.
GO:0005634; C:nucleus; IDA.
GO:0005515; F:protein binding; IPI.
GO:000518; P:inactivation of MAPK; IDA.
                              241
                                                                                                                                                                                                                          121
                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity:
                                                                            61
                                                                                                                                                                            41
                                                                                                                                                                                                                                                                          21
                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                         μ
CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                   SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                   H1sIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       7.44e-133
1377.50
89.78%
86.90%
84.67%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   39502 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     D52C29AE215CA285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Johnson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Regulator
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          T.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kraft
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LPS-mediated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A.S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZNX
                              300
                                                                            80
                                                                                                                            240
                                                                                                                                                                            60
                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                        40
                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                        20
     RESULT 6
QRNSTI
ID QRNSTI
ID QRNSTI
ID CRNSTI
O1-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 01-C
DT 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     멼
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                       Submitted (UUN-2002) to the EMBL/GenBank/DDBJ databases. EMBL; BC031643; AAH31643.1; -. GO; GO:0017017; F:MAP kinase phosphatase activity; IEA. GO; GO:0006470; P:protein amino acid dephosphorylation; InterPro; IPR000340; DS phosphatase. InterPro; IPR000340; DS phosphatase. InterPro; IPR000343; MAPK phosph. InterPro; IPR0003343; MAPK phosph. InterPro; IPR0003343; TYR phosphatase. PF00782; DSPc; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                             01-OCT-2002 (TrEMBLrel. 22, Created)
01-OCT-2002 (TrEMBLrel. 22, Last sequence up
01-OCT-2003 (TrEMBLrel. 25, Last annotation
Hypothetical protein (Fragment)
Homo sapiens (Human)
  PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPC; 1.
PROSITE; PS00383; TYR_PHOSPHATASE_1;
                                                                                                                                                                                                                                                                   TISSUE=Brain, and Lung;
Strausberg R.;
                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q8N5T1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q8N5T1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAA------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCGTGGTTGGACAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ileProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysAspLeuMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aAlaLysTrpAsnLeuGluArgAlaLeuCysArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AspSerArgArgThrGlyMetLysArgAlaProLeuLysSerSerLeuAsn-AlaGluAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CysAsnGlnLysValValValTyrAspGlnSerSerGlnAspValGlySerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                               Chordata; Craniata; Vertebrata; Euteleostomi; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ---- AAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               904
```

300

828

260

280

780

240 720 220 660 200 600 180 540 160 480 140 420 120

ΙEΑ

Alignment s Pred. No.:

Scores:

SOFFR

Score:

Percent Similarity: Best Local Similarity:

Query Match: DB:

Ś B Ś

148

388

81

328

61

268

21

41

```
US-10-029-345A-108_COPY_538_1443 (1-906) x Q8N5T1 (1-616)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS50056; TYR
PROSITE; PS50054; TYR-
Hypothetical protein.
NON TER
SEQUENCE 616 AA; 67
                                                                          AlaTyrargphevallysGluLysargProThrileSerProAsnPheAsnPheLeu
                                                                                                                          GCTTACAGATTTGTGAAAGAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGC
                                                                                                                                                                  CGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAA
                                                                                                                                                                                              48 TGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATC
                                                                                                                                                                                                                                     AsnAlaserAsnThrcysProLysProAspPheileProGluSerHisPheLeuArgVal
                                                                                                                                                                                                                                                                                       AATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTG
                                                                                                                                                                                                                                                                                                                    TGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTA 567
                                                                                                                                                                                                                                                                                                                                                            CGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                     AAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAAAGCTCCCAAGATGTTGCCTCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGAT
                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PS50056; TYR_PHOSPHATASE_2; 1.
PS50054; TYR_PHOSPHATASE_DUAL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            616 AA; 67636 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4.67e-126
1312.00
99.60%
99.21%
80.64%
                      17,
                                                                                                                                                     leAlaIleAlaTyrIleMetLysArgMetAspMetSerLeuAspGlu
                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2CB0B14482F2AD72 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length:
Matches:
Conservative:
Mismatches:
Indels:
                                      ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      616
251
1
1
0
                                                                                                                                                                           807
                                                                                                                                                                                                                   747
                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                          687
                                                                                                                                                                                                                                                                               160
                                                                                                                                                                                                                                                                                                  627
                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                  507
                                                                                                                                                                                                                                                                                                                                                                                                      100
                                                                                                                                                                                                                                                                                                                                                                                                                          447
                                                                                                                                                                                                                                                                                                                                                                                                                                                80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20
                                Ś
                                                       밁
                                                                      Ş
                                                                                              맑
                                                                                                               Š
                                                                                                                                       밁
                                                                                                                                                          Ş
                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                      Best Local S:
Query Match:
DB:
                                                                                                                                                                                                Ş
                                                                                                                                                                                                                        뮍
                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                   US-10-029-345A-108_COPY_538_1443 (1-906) x Q99MG5
                                                                                                                                                                                                                                                                                                                                                                    Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                            Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                        "A Novel MKP is an Important Negative Regul Activation in Macrophages.";
Mol. Cell. Biol. 20:6999-7009(2001).
EMBI; AF345952; AAK35053.1; -
HSSP; Q16828; IMKP.
MGD; MG1:1917936; Dusp16.
G0; G0:0005537; C:Cytoplasm; IDA.
G0; G0:0005534; C:nucleus; IDA.
G0; G0:0005535; F:protein binding; IPI.
G0; G0:0005515; F:protein binding; IPI.
G0; G0:000518; P:inactivation of MAPK; ID!
InterPro; IPR000340; DS phosphatase.
InterPro; IPR000340; DS phosphatase.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; Rhodanese-like.
Pfam; PF00782; DSPc; I.
InterPro; IPR000387; TYR phosphatase.
Pfam; PF00781; Rhodanese: I.
PfATY; SM0015; DSPc; 1.
SMART; SM0015; DSPc; 1.
SMART; SM0015; DSPc; 1.
PROSITE; PS00383; TYR PHOSPHATASE 1; 1.
PROSITE; PS00383; TYR PHOSPHATASE 1; 1.
PROSITE; PS00383; TYR PHOSPHATASE 1; 1.
PROSITE; PS00383; TYR PHOSPHATASE DUAL; 1.
PROSITE; PS00384; TYR PHOSPHATASE DUAL; 1.
PROSITE; PS00384; TYR PHOSPHATASE DUAL; 1.
                                                                                                                                                                                                                                                                                                                                     No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN-BALB/c;
Matsuguchi T., Musikacharoen
Yoshikai Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Map kinase phosphatase-M A2 isoform.
Mus musculus (Mouse).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
              101
                                301
                                                                         241
                                                                                                                 181
                                                    81
                                                                                                                                                          121
                                                                                              61
                                                                                                                                       41
                                                                                                                                                                              21
                                                                                                                                                                                                 13
           GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                       AspargValLeuileThrGluLeuileG
                                                                                                                      1.1e-111
1172.50
80.13%
77.48%
72.07%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 T.,
                                                                                                                                                                                                                                                                                                                                                        6C0CA4E6E9099B98 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                         Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Johnson
                                                                              lnHisSerAlaLysHisLysValAspileAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Regulator of LPS-mediated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           T.R.,
                                                                                                                                                                                                                                                     (1-622)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Kraft A.S.,
```

밁 δ 뫄 Ş 밁 Ś 밁 Ś ₽ Ś 맑 S В Ş В Ş 문 Ś В S 멍 S ם

868 221 808 201 748 181 889 161 628 141 568 121 508 101 448

Q99MG5; Q99MG5; 01-JUN-2001

(TrEMBLrel.

120

100

80 240 60 180 40

```
RESULT GREENLY RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       원 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      중 음 중
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            중 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    음 성 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
"A Novel MKP is an Important Negative Regularity and Nativation in Macrophages";
Mol. Cell. Biol. 20:6999-7009(2001).
EMBL; AP345954; AAK35055.1; -.
HSSP, Q16928; IMKP.
MGD; MGI:1117936; Dusp16.
GO; GO:0005737; C:cytoplasm; IDA.
GO; GO:0005737; C:cytoplasm; IDA.
GO; GO:0005738; F:protein binding; IPI.
GO; GO:000188; P:inactivation of MAPK; III
InterPro; IPR000340; DS_phosphatase.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR000387; TYR_phosphatase.
Pfam; PF00782; DSPC; 1.
                                                                                                                                                                                                                                                                                                                 Adp ...
DUSP16 OR 3850...
Mus musculus (Mouse).
Mus musculus (Motazoa; Chordata;
---haria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                      Q9AG15 PRELIMINARY; PRT; 300 AA.
Q9AG15;
Q1-JUN-2001 (TrEMBLrel. 17, Created)
Q1-JUN-2001 (TrEMBLrel. 17, Last sequence update)
Q1-OCT-2003 (TrEMBLrel. 25, Last annotation updat
Map kinase phosphatase-M B2 isoform.
DUSP16 OR 3830417M17RIK.
                                                                                                                                                                                                                                             STRAIN=BALB/c;
Matsuguchi T., Musikacharoen
                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GlnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     906
                                                                                                                                                                                                                                                .
                                                                                                                                                                                                                                                                                                                                Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                    Johnson
                                                                                                                                                                                                                     Regulator
                                                                                IDA
                                                                                                                                                                                                                                                  T.R.,
                                                                                                                                                                                                                                                                                                                                                                                                            update)
                                                                                                                                                                                                                                                     Kraft
                                                                                                                                                                                                                       of LPS-mediated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -AspLeuMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          122
                                          δ
                                                                               음 성
                                                                                                                               밁
                                                                                                                                                                 S
                                                                                                                                                                                                     밁
                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                          뭐
                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뮻
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SORRERE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-029-345A-108_COPY_538_1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE; PS50266; RHÓDANESE 3; 1.
PROSITE; PS00303; TYR PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR PHOSPHATASE DUAL;
Hydrolase; Kinase.
SEQUENCE 300 AA; 33624 MW; 4C61846A0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF00581; Rhodanese; PRINTS; PR01764; MAPKPHPF SMART; SM00195; DSPC; 1. SMART; SM00450; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               No.:
                                                                                                                                           146
                                                                                                                                                                                                      126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Scores:
                                                                                                                                                                        601
                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                  123
                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                721
                                                                               166
                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                          101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                     186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                 CTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCACCATCGCCTATCGCCTACATCATG
                                                                               ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MetAlaHisGluMetIleGlyThrGlnIleValThrGluSerLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                              ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                            CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AspArgValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                             LeuAla--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64; MAPKPHPHTASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rhodanese;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.09e-97
1036.00
72.20%
69.33%
63.68%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (1-906)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4C61846ACDF0F456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   x Q9AG15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (1-300)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
217
9
20
67
                                                                                                                                                                                                                                                                    -AspLeuMet
```

480

122

122

300 100 100 360 120 40 180 60 20

```
밁
                                                                                                                                                                                Ś
                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
Q86SS8
AC Q8
AC Q8
AC Q8
DT 01
DT 01
DT 01
DT 01
DT 01
DT S1
CS HO
COC Ma
COC MA
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC MC
COC M
                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                              US-10-029-345A-108_COPY_538_1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Scores:
Pred. No.:
Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (JAN-2003) to the EMBL/GenBank/DDBJ dat EMBL; BC045110; AAH45110.1; - GO; GO:0017017; F:MAP kinase phosphatase activity (GO; GO:0006470; P:protein amino acid dephosphoryl InterPro; IPR000340; DS phosphatase.

InterPro; IPR00343; MAPK phosph.
InterPro; IPR002955; P rich_extensn.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001387; TYR_phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          중 음 중
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
TISSUE-Brain, and Astrocytoma;
Strausberg R.;
Submitted (JAN-2003) to the EM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q86SS8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
similar to dual specificity phosphatase 8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens (Human)
                                                                                             178
                                                                                                                                      41
                                                                                                                                                                                118
                                                                                                                                                                                                                            21
                                                                                                                                                                                                                                                                           58
                                                                                                                                                                                                                                                                                                                                                                 _
                 GinGlyiysvaiThriieAlaGluLeuileGinProAlaAlaArgSerGlnValGluAla
                                              CAGGACAAAGTGTTAATTACAGAGCTCATCCAGCCATTCAGCGAAACATAAGGTTGACATT
                                                                                                    TCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAA
                                                                                                                                                                                            ArgGlydiyProGlyGlyProLeuvalileAspSerArgSerbhevalGlufyrAsnSer
                                                                                                                                                                                                                                                                                                                              ATGGCCCATGAGATGATTGGAACTCAAATTGTT---ACTGAGAGGTTGGTGGCTCTGCTG
                                                                                                                                                                                                                       GAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACA
                                                                                                                                                                                                                                                                                  MethiaglyAspArgLeuProArgLysValMetAspAlaLysLysLeuAlaSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aAlaLysTrpAsnLeuGluArgAlaLeuCysArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ÇAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AspSerArgArgThrGlyMetLysArgAlaProLeuLysSerSerLeuAsn-AlaGluAi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 8.84e-93
989.00
81.40%
63.12%
60.79%
                                                                                                                                                                                                                                                                                                                                                                                    (1-906) x Q86SS8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -AAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       >sphatase activity; IEA.
acid dephosphorylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AA
                                                                                                                                                                                                                                                                                                                                                                                       (1-625)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         databases
                                                                                                                                                                                                                                                                                                                                                                                                                                190
55
54
2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IEA.
                 80
                                                          237
                                                                                                      60
                                                                                                                                                   177
                                                                                                                                                                                            40
                                                                                                                                                                                                                                        117
                                                                                                                                                                                                                                                                                       20
                                                                                                                                                                                                                                                                                                                                 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               828
RESULT

Q7752/9

ID 977

AC 077

D7 071

D7 011

D7 011

D7 011

D7 011

D7 01

D8 M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

OS M1

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                  Q7TSZ9;
Q7TSZ9;
01-OCT-2003
01-OCT-2003
01-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Lув
```

```
SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

STRALN=C57BL/6; TISSUE=Brain;

MEDLINE=22388257; PubMed=12477932;

Strausberg R.L., Peingold E.A., Grouse L.H., Derge J.G.,

Klausner R.D., Collins F.S., Wagner L., Shemmen C.M., Schuler G.D.,

Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

Altschul S.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

Stapleton M.J., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
                                                                                                                                                                                                                            Mammalia, Eutheria, Rodentia,
                                                                                                                                                                                                                                                         Dusp8 protein.
Mus musculus (Mouse)
                                                                                                                                                                                                              NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAG 897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IleMetLysThrMetGlyMetSerSerAspAspAlaTyrArgPheVaiLysAspArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlnValileValHisCysLeuAlaGlylleSerArgSerAlaThrIleAlaIleAlaTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTTIGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LeuMetThrGinAsnGiyiieSerTyrVaiLeuAsnAiaSerAsnSerCysProLysPro
                                                                                                                                                                                                                                                                                         (TrEMBLrel. 25, (TrEMBLrel. 25, (TrEMBLrel. 25,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProAlaAlaLeuLeuProMetSerLeuSerGinProCysLeuProValProSerValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ---TCCACTCTAGICCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               :::||| ||||||:::::||||||| |||||:::
AlaAspSerPheLeuSerIleLeuLeuSerLysLeuAspGlyCysPheAspSerValAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCAC
:::||| ||||||::::|||||| |||||:::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
                                                                                                                                                                                                                                                                                   Created)
Last sequence update)
Last annotation updat
                                                                                                                                                                                                              Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                       665
                                                                                                                                                                                                                                                                                                                                                     A
                                                                                                                                                                                                                                                                                     update)
                                                                                                                                                                                                                   Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  357
```

```
Best Local Si
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alignment Scores: Pred. No.: Score:
                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                                                                                                                 ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ર્
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SORRACE RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADIA RADI
                                ર્શ
                                                                                 밁
                                                                                                                                ð
                                                                                                                                                                        당
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-029-345A-108_COPY_538_1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Strausberg
Submitted (
EMBL; BC052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H., Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A., Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S. Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E., Jones S.J., Marra M.A.; "Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                     161
                                                                                           181
                                                                                                                                                                                                                                                                                     141
                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BC052705; AAH52705.1;
                                                                                                                                                                                                                                                                                                                                                                            AspPheIleCysGluSerArgPheMetArgIleProIleAsnAspAsnTyrCysGluLys
                        GACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAA
                                                                                         LeuThrArgIleLeuProHisLeuTyrLeuGlySerGlnLysAspValLeuAsnLysAsp
                                                                                                                                                                                                                CCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAG
                                                                                                                                                                                                                                                                                                            TCCACTCTAGTCCCTACC---TGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AlaAspSerPheLeuSerIleLeuLeuSerLysLeuAspGlyCysPheAspSerValAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ThrGluProGlnAspValValValTyrAspGlnSerThrArgAspAlaSerValLeuAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlnGlyLysValThrIleAlaGluLeuIleGlnProAlaThrArgSerGlnValAspAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ArgGlyGlyProGlyGlyProLeuValIleAspSerArgSerPheValGluTyrAsnSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGGCCCATGAGATGGTTGGAACTCAAATTGTT---ACTGAGAGGTTGGTGGCTCTGCTG
                                                                                                                                                                                                                                                                                     ProAlaThrLeuProSerMetSerLeuSerGlnProCysLeuProValProSerValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MetAlaGlyAspArgLeuProArgLysValMetAspAlaLysLysLeuAlaSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ן R.;
(MAY-2003) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    665 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE=Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2.31e-92
985.00
80.73%
62.46%
60.54%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    69021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (1-906) x Q7TSZ9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9166E36A8835249F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  full-length human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                            654
                                                                                                                                                                                                                                                                                                                                    474
                                                                                                                                                                                                                                                                                                                                                                                 140
                                                                                                                                                                                                                                                                                                                                                                                                                              417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             117
  220
                                                                                           200
                                                                                                                                          594
                                                                                                                                                                                       180
                                                                                                                                                                                                                                      534
                                                                                                                                                                                                                                                                                     160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20
```

```
Alignment
Pred. No:
                                                                                                                                                                                                                                                                                                                                                                             RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RESULT RE
                                 Ś
                                                                               片
                                                                                                       5
                                                                                                                                                                                                            Best I
Query
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                            US-10-029-345A-108_COPY_538_1443 (1-906) x Q8BZE4 (1-206)
                                                                                                                                                                                                                                                                        Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                        EMBL; AK035652; BAC29136.1; -.

R MGD; MGI:1098836; D6Errd213e.

GO; GO:0017017; F:MAP kinase phosphatase activity; IEA.

GO; GO:0016470; P:protein amino acid dephosphorylation; IE

InterPro; IPR00843; MAPK phosph.

InterPro; IPR001763; Rhodanese-like.

Pfam; PF00581; Rhodanese; 1.

PRINTS; PR01764; MAPKPHPHTASE.

SMART; SM00450; RHODANESE 3; 1.

PROSITE; PS50206; RHODANESE 3; 1.

PROSITE; PS50206; RHODANESE 3; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q8BZE4;
01-MAR-2003
01-MAR-2003
01-OCT-2003
                                                                                                                                                                                                                                                  Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence up
01-OCT-2003 (TrEMBLrel. 25, Last annotation
Truncated MAPK phosphatase 7 homolog.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the RIKEN Genome Exploration Research Group "Analysis of the mouse transcriptome based c 60,770 full-length cDNAs.";
Nature 420:563-573(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
STRAIN=C57BL/6J; TISSUE=Urinary bl
MEDLINE=22354683; PubMed=12466851;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mus musculus (Mouse)
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The FANTOM Consortium,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              D6ERTD213E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q8BZE4
                                                                                                                                                                                                                                Match:
                                                                                                                                                                                                                                                                                                                    No.∵
                                                                                                                                                                                                                                                                                                                                       Scores
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              655
21
                                       61
                                                                                                                           -
                                                                               =8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                         AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Lys 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE=Urinary bladder;
                                                                                                                                                                                                        8.75e-83
891.00
98.87%
97.74%
54.76%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                        Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           p Phase I
on functi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              nase I & II
functional
                                                                                                                                                                                                          206
173
2
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Team;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of.
    6
                                            120
                                                                                   20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     260
```

```
Ś
                                                                                            당
                                                                                                                                          Ś
                                                                                                                                                                                      US-10-029-345A-108_COPY_538_1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT PG6OS2
AC O99
AC O99
AT 011
DT 011
DT 011
DT 011
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 01
DT 0
                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                   Alignment
Pred. No.:
                                                                                                                                                                                                                                                                    DB
                                                                                                                                                                                                                                                                                                                                                                            Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                     PSEQUENCE FROM N.A.

A Montpetit A., Boily G., Sinnett D.;

A Montpetit A., Boily G., Sinnett D.;

A Montpetit A., Boily G., Sinnett D.;

A Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit A., Boily G., Sinnett D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The Montpetit D.;

The M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q96QS2
Q96QS2;
Q1-DEC-2001 (
01-DEC-2001 (
01-OCT-2003 (
                                                                                                                                                                                                                                                                                                                                                                                                No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Truncated MAPK phosphatase 7.
                                                                                                                                                                                                                                                                                                                                                                                                                       Scores:
                                                 61
                                                                                                                                                      _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                      161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
        AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LeuAladlyGlyPheAladluPheSerArgCysPheProGlyLeuCysGludlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTGCAGGTGGGTTTTGCTGAGGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AspCysPheLeuThrValLeuLeuGlyLysLeuGluArgSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACTGITTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CysasnoinLysvalvalvalTyraspoinSerSerdinaspvalGlySerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                         2.68e-58
653.00
70.35%
70.35%
40.14%
                                                                                                                                                                             (1-906) x Q96QS2 (1-143)
                                                                                                                                                                                                                                                                                                                                                                                                                             1.
5213A213AA7E5974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                    Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                       Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A
                                                                                                                                                                                                                              140
0
3
56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IEA.
              120
                                                            20
                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
RESULT

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

AC OS

A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21
```

```
SEQUENCE FROM N.A.
STRAIN=Bristol N2;
Waterston R.;
"Direct Submission.";
Submitted (JUN-2001) to the EM
EMBL; U33178; AAK68299.1; -- HSSP; Q16828; 1MKP WOrmPep; F08B1.1a; CE27918. GO; GO:0016787; F:hydrolase activity; IEA GO; GO:0017017; F:MAP kinase phosphatase
                                                                                                                                                         Chissoe S.;
"The sequence of C.
Submitted (APR-1995)
                                                                                                                                                                                                 SEQUENCE FROM N.A.
STRAIN=Bristol N2;
                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
STRAIN-Bristol N2;
MEDLINE=99069613; PubMed=9851916;
                                                                                                                                                                                                                                    "Genome sequence of the nematode C. el investigating biology. The C. elegans Science 282:2012-2018(1998).
                                                                                                                                                                                                                                                                                                                                            Caenorhabditis elegans.
Eukaryota; Metazoa; Nematoda; Chromadorea;
Rhabditidae; Peloderinae; Caenorhabditis.
NCBI_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                           OBST19, PRELIMINARY, PRT, 657 AA 0BST19, 01-JUN-2002 (TREMBLrel. 21, Created) 01-JUN-2002 (TREMBLrel. 21, Last sequence up 1-OCT-2003 (TREMBLRel. 25, Last annotation Hypothetical protein F08B1.1a.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACTGITTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuAlaGly--Ala-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AspLysValleuilethrGluLeuIleGlnHisSerAlaLysHisLysValAsplieAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CACATTITGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            elegans to the
                                                                    EMBL/GenBank/DDBJ
                                                                                                                                                 cosmid F08B1.";
EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                               elegans: a
                   IEA.
                                                                                                                                                                                                                                             legans: a platform for Sequencing Consortium.";
 activity;
                                                                                                                                                                                                                                                                                                                                                                                                                           e update)
ion update)
                                                                                                                                                                                                                                                                                                                                                                    Rhabditida;
                                                                  databases
                                                                                                                                                                                                                                                                                                                                                                   Rhabditoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Aspa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    40
```

```
B
                                                                                                                                 ঠ
                                                                                                                                                                  닭
                                                                                                                                                                                      5
                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                 ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ક
                                                       밁
                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-029-345A-108_COPY_538_1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRINTS; PR01764; MAPKDHPHTASE.

SMART; SM00195; DSPc; 1.

SMART; SM00495; RHOD; 1.

SMART; SM00450; RHOD; 1.

PROSITE; PS0206; RHODANESE 3; 1.

PROSITE; PS00383; TYR PHOSPHATASE 1; 1.

PROSITE; PS50056; TYR PHOSPHATASE DUAL; 1.

PROSITE; PS50054; TYR PHOSPHATASE DUAL; 1.

HYDOCHELICAL PROCEIN; HYDROLAGE.

SEQUENCE 657 AA; 71002 MW; A0D9153DE63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro; IPR000387; Pfam; PF00782; DSPc;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GO; GO:0006470; P:protein amino acid
InterPro; IPR000340; Ds_phosphtase.
InterPro; IPR008343; MAPK_phosph
InterPro; IPR001763; Rhodanese-like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              No::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Scores:
                                                                                                                                          493
                                                                                                                                                                        163
                                                                                                                                                                                                 439
                                                                                                                                                                                                                               143
                                                                                                                                                                                                                                                                                                                                             103
                                                                                                                                                                                                                                                                                                                                                                                                                                 241 TGCAGTCAGAAGGTTGTAGTTTACGATCAA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                148 TGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTG------TTAATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
LysAsnPheMetArgIleProValAsnAspSerTyrGlnGluLysLeuSerProTyrPhe
             TCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTGCCGTGGTTG
                                                                       ATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAG----
                                                                                                                              AATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGG
                                                                                                                                                                     LeuSerGlnProCysLeuSerGlnProThrGlyAsp---GlyIleThrLeuIleThrPro
                                                                                                                                                                                               ATTTCTCAGCCTTGCTTA-----CCTGTTGCCAACATTGGGCCAACCCGAATTCTTCCC
                                                                                                                                                                                                                            AlaGlnGlnTyrProGlnLeuCysGluSerSerGluGlyMetThrArgLeuProGlnSer
                                                                                                                                                                                                                                                                                                          CTGGAGAAGAGC-----TTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTC
                                                                                                                                                                                                                                                                                                                                             IleAlaSerCysAsnAlaProGluSerThrAlaLysIleMetArgValLeuArgGluArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                            HisGlnLeuMetSerCysSerSerGlyCysThrLysMetAspGluLysLeuAspLeu---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACAGAGCTCATCCAGCATTCAGCG------AAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PheSerLysLeuIleArgArgLeuPheGluAsnLysLeuAspAspAsnCysLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GATAGCCGGCCATTTGTGGAATACAATACATCCCACATTTTGGAAGCCATTAATATCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAAAGTGGAAACGGAAAAAGTGCTGCTAATT
                                                     AsnIleTyrLeuGlySerGlnIleAspSerLeuAspGluThrMetLeuAspAlaLeuAsp
                                                                                                                                                                                                                                                         TCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC-----
                                                                                                                                                                                                                                                                                    LeuGluAspThrAspLysPheArgSerValMetValLeuGluGlyGlyPheLysGlnPhe
                                                                                                                                                                                                                                                                                                                                                                       GTTGCCTCTCTC-----TCTTCAGACTGTTTTCTCACTGTACTTCTGGGTAAA
                                                                                                                                                                                                                                                                                                                                                                                                  ------ValLeuTyrAlaGluGluAspLysProArgGlyAsnLysArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AspCysArgGlyPheThrGluTyrAsnGluSerHisValArgHisSerMetAsnAlaPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P:protein amino acid dephosphorylation; IEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6.11e-49
563.50
61.54%
41.99%
34.63%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYR_phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (1-906) x Q8ST19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A0D9153DE6326B43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (1-657)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      657
131
61
87
33
                                                                                                                                                                                                                                                        -ACTCTAGTCCCTACCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                -----AGCTCCCAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          =
                            669
                                                                                                                                                                                                  492
                                                                                                                                                                                                                               162
                                                                                                                                                                                                                                                                                                                                              122
                                                                                                                                                                                                                                                                                                                                                                       330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 87
                                                        221
                                                                                      609
                                                                                                                                           552
                                                                                                                                                                        181
                                                                                                                                                                                                                                                         438
                                                                                                                                                                                                                                                                                                                                                                                                                                                              87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28
```

```
Best Local
Query Match
DB:
                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                        Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                         Alignment
US-10-029-345A-108_COPY_538_1443
                                                                                                                                                                                                                                                                                                                                                              RC STRAIN—Rap; TISSUE=Body;

RX MEDILINE=A2388257; PubMed=12477932;

RX MEDILINE=22388257; PubMed=12477932;

RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

RA Alteschul S.F., Zeeberg B., Buetcow K.H., Schaefer C.F., Bhat N.K.,

RA Alteschul S.F., Zeeberg B., Buetcow K.H., Schaefer C.F., Bhat N.K.,

RA Alteschul S.F., Zeeberg B., Buetcow K.H., Schaefer C.F., Bhat N.K.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hong L.,

RA Stapleton M., Soaree M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Stapleton M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Stapleton M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Stapleton M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Stapleton M.J., McGernan N.J., Malek J.A., Gunaratne P.H.,

RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Rodrigues S., Sanchez A.,

RA Richards S., Worley A.C., Shevchenko Y., Bouffard G.G.,

RA Rahay J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Wyers R.M., Butterfield Y.S.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Wyers R.M., Schein J.E.,

RA Rodriguez B.J., Marra M.A.,

"Generation and initial analysis of more than 15,000 full-length human

RT and mouse cDNA sequences ";

Proc. Warl A.G., Grim S., Garcia G.G., Grim G.G., Grim G.G., Grim G.G., Grim G.G., Grim G.G., Grim G.G., Grim G.G., Grim G.G., Grim G.G., Grim G.G., Grim G.G., Grim G.G., Grim G.G., Grim G.G., Grim G.G., Grim G.G., Grim G.G., Grim G.G., Grim 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Brachydanio rerio (Zebrafish) (Danio rerio).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniforma
Cyprinidae; Danio.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-OCT-2003 (TrEMBLrel.
01-OCT-2003 (TrEMBLrel.
01-OCT-2003 (TrEMBLrel.
Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q7SZF3
                                                                                                                                     No.:
                                                                                                                                                                                              Hypothetical protein SEQUENCE 367 AA;
                                                                                                                                                                                                                                      EMBL;
                                                                                                                                                                                                                                                     Submitted (MAY-2003) to the
                                                                                                                                                                                                                                                                     Strausberg R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                         Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              670
                                                                                                                                                                                                                                    BC052477; AAH52477.1;
                                                                                                                                                                                                                                                                                                                                                      Natl. Acad. Sci.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGTTTAGCTGGGATCTCCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACAAATCAGTAGATTTCATTGAGAAAAGCCAAAAAGCCTCCAATGGATGTGTTCTAGTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AACTTCAATTTTCTGGGCCAACTCCTGGACTATGAG 885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProMetAlaTyrGluPheLeuGluLysCysArgAlaGlyLysLysCysLeuIleHis
                                                                                                                                                                                                                                                                                             TISSUE=Body;
                                      1.28e-39
472.50
56.86%
34.78%
29.04%
                                                                                                                                                                                                40538 MW;
                                                                                                                                                                                                                                                                                                                                                      U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25,
25,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Last sequence up
  (1-906) x Q7SZF3
                                                                                                                                                                                                                                                         EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Created)
                                                                                                                                                                                                                                                                                                                                                        99:16899-16903 (2002)
                                                                                                                                                                                                F89997A415DAD6AC
                                                                                               Length:
Matches:
Conservative:
                                        Gaps:
                                                          Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         313
                                        104
66
110
                                                                                                                                                                                                                                                                                                                                                                                            full-length human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cypriniformes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            261
```

유 상 문

152

132 385 112 331 중 음

271

72

92

δ

211

55

유 성 뫄 Ś 멅 δ

163

103

43

```
ACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATT 894
                                                                                                                                                                                                                                                                                                                                                                                                                                         GTTCTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGGCACCATCGCCTATCGCCTACATC
                                                                                                                                                                                                                                                                                                                                                                                                           |||||||:::
|MetLysLysLysArgValArgLeuGluGluAlaPheGluPheValLysGlnArgArgSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SerSerTrpPheIleGluAlaIleGluPheIleAspSerValLysAspSerAsnGlyArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PheGluGlyAspTyrGlnTyrLysCysileProvalGluAspAsnHisLysGluAspile
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuAspArgMetGlyileSerAlaLeuLeuAsnValSerSerAsnCysProAsn---His
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGGTATACCTGTCCAAAGCCTGAC
::: :: |||||| ||| |||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ValGluileLeuProPheLeuPheLeuGlySerAlaLeuHisAlaSerLysLysAspMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerSerMetGluSerSerCysLeuSerCysAlaThrProGlnHisAspGlnGlyGlyPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerThrGlnTyrProAspTyrCysLeuLysThrArgThrLeuSerValSerSerSerGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTCGTTGTTTCCCTGGCCTCTGT------GAAGGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTG---GAGAAGAGCTTCAACTCT---GTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ArgSerSerAspThrAsnThrMetLysAspAspSerThrIleThrLeuValHisAsnAla 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGCTCCCAAGATGTTGCCTCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAA 330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAA 270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         :::||||||
ArgArgAlaLysGlySerValSerLeuAspGlnIleLeuSerGlyAsp------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGCGAAGG-----TTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTGGAATACAATACATCCCACATTTTGGAAGCCATTAATATATCAACTGCTCCAAGCTTATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuAlaPheSerAlaGlyHisLeuArgGlyAlaValAsniieArgCysAsnThrIleVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LeuLysArgLeuMetLysAspAspGlyAlaLysCysLeuLeuAspCysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTGGTGGCTCTGCTGGAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTT
                                                  Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                     update)
                                                                                                                                                                 update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      102
                                        Ś
                                                                                 밁
                                                                                                                 Ś
                                                                                                                                                            문
                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                     Ą
                                                                                                                                                                                                                                                                                                                                                                                                                    문
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-029-345A-108_COPY_538_1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REMBL; AKO35293 BAC29019.1;

REMBL; AKO35293 BAC29019.1;

REMBL; AKO35293 BAC29019.1;

REMBL; AKO88024; BAC40102.1;

REMBL; AKO88024; BAC40102.1;

REMBL; AKO88025; BAC40100.1;

REMBL; AKO88186; BAC40196.1;

REMBL; AKO88186; BAC40196.1;

REMBL; AKO88187; BAC40300.1;

REMBL; AKO88187; BAC40300.1;

REMBL; AKO88187; BAC40300.1;

REMBL; AKO88188; BAC40300.1;

REMBL; AKO88186; BAC40300.1;

REMBL; AKO88186; BAC40300.1;

REMBL; AKO88024; BAC40300.1;

REMBL; AKO88024; BAC40300.1;

REMBL; AKO88024; BAC40300.1;

REGO; GO:0017017; F:MAP Kinase phosphatase activity; IEA.

RO; GO:0017017; F:MAP Kinase phosphatase.

RO; GO:0016470; P:Portein amino acid dephosphorylation; IEA.

RITHERPTO; IPR000340; DS phosphatase.

RITHERPTO; IPR000340; MSPK, phosphatase.

RITHERPTO; IPR001843; MAPK, phosphatase.

RITHERPTO; IPR001873; Rhodanese-1ike.

RITHERPTO; IPR001873; Rhodanese-1ike.

REAMN; PR00581; Rhodanese; 1.

REAMN; PR00581; Rhodanese; 1.

REAMN; SM00195; DSPC; 1.

REAMN; SM00195; DSPC; 1.

REAMN; SM00195; DSPC; 1.

REAMN; SM00195; DSPC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; POPROSITE; PO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS00383; TYR_PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR_PHOSPHATASE_DUAL;
PROSITE; PS50054; TYR_PHOSPHATASE_DUAL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the RIKEN Genome Exploration Research Group Phase I & II "Analysis of the mouse transcriptome based on functional 60,770 full-length cDNAs.";
Nature 420:563-573(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
STRAIN-C57BL/6J, and NOD;
TISSUE-Pancreas, Thymus, and Urina
MEDLINE-22354683; PubMed-12466851;
The FANTOM Consortium,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  [1]
SEQUENCE FROM N.A.
                                                                               254
                                                                                                                        313
                                                                                                                                                                 234
                                                                                                                                                                                                                                                   214
                                                                                                                                                                                                                                                                                            196
                                                                                                                                                                                                                                                                                                                                     194
                                                                                                                                                                                                                                                                                                                                                                                         TTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAA---
                                                      HisleValLeuGluSerLeuLysArgGluGlyLysGluProLeuValLeuLysGlyGly
                                                                                                                                                                                                                                                                                                       ACTGTACTTCTGGGTAAAÇTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTTGGG
                                                                                                                                      IleilevalTyrAspGluAsnThrAsnGluProSerArgValThrProSerGlnProLeu
                                                                                                                                                                      LeuAspLeuTieSerCysArgGluGlyLysAspSerPheLysArgIlePheSerLysGlu
                                                                                                                                                                                                                                                                 ACAGAGCTCATCCAG----CATTCAGCGAAACATBAGGTTGACATTGATTGCAGTCAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (MAR-2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AΑ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3.12e-39
469.00
58.05%
35.57%
28.83%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            52532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ΜW.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (1-906) x Q8R3L3 (1-483)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Urinary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7797A1877D986AA8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              μ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               483
106
67
95
30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Team; annotation
                  417
                                                                                                 372
                                                           273
                                                                                                                                          253
                                                                                                                                                                                                                          233
                                                                                                                                                                                                                                                                                                              213
                                                                                                                                                                                                                                                                                                                                                     195
                                                                                                                                                                                                                                                                                                                                                                                                193
```

RESULT
QBR3L3
IDBR3L3
AC QB
DT Q1
DT Q1
DT Q1
DT Q1
DT Q1
OT Q1
OT Q1
OT Q1
OT Q1
OT Q1
OT Q1
OT Q1
OT Q1
OT Q1
OT Q1
OT Q1
OT Q1
OT Q1
OT Q1
OT Q1
OT Q1
OT Q1
OT Q1
OT Q1
OT Q1
OT Q1
OT Q1

Q8R3L3

PRELIMINARY;

PRT;

483 ₽

OBRBIL3, CTEMBLIFIAMER; PO 1-UTM-2002 (TrEMBLEE1. 21, Cre 01-UTM-2002 (TREMBLEE1. 21, Las 01-OCT-2003 (TREMBLEE1. 25, Las Dual specificity phosphatase 10 DUSP10. Mus musculus (Mouse). Eukaryota, Metazoa; Chordata; Cummmalia; Eutheria; Rodentia; SC NCBI_TaxID=10090;

UN-2002 (TrEMBLrel. 21, Created)
UN-2002 (TrEMBLrel. 21, Last sequence up
CT-2003 (TrEMBLrel. 25, Last annotation
specificity phosphatase 10.

밁 Ş 뭐 Ś B S Вb 8 밁 Ş 밁 Ś Д Ś B Ş 유

291

271 778 251 718 231

용 &	ß 8	문 왕	B 8	B 8	B 8	ß 8	8 8	유 성	DЬ
847 448	787 428	727 408	667 388	607 370	562 352	502 332	445 312	418 294	274
CCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC 900 ::: :::::: :::	ATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAAA	CACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCTACATCATGAAGAGG 786 :::	TTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTTCTAGTG 726 ::::::::::::::::::::::::::::::::::::	GAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGG 666	GTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCC 606 :::	CTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTAT 561 ::::::	CAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACCCGAATTCTTCCCAATCTTTAT 501	CysArgGluValGlyGlyAlaSerAlaAlaSerSerMetLeuProGlnSer 311	LeuSerSerPheLysGlnAsnHisGlyAsnLeuCysAspAsnSerLeuGlnLeuGlnGlu 293

Search completed: June 21, 2004, 12:40:25 Job time: 53.8459 secs

This Page Blank (uspto)

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Command line parameters:

-MODEL-frame+ n2p.model -DEV=xlp
-MODEL-frame+ n2p.model -DEV=xlp
-Q=/cgn2_1/USPTO_spool_p_/US10029345/runat_21062004_122814_4167/app_query.fasta_1.3278
-DB=A_Geneseq_29Jan04_-QFMT=fastan -SUFFIX=rag -MINMATCH=0.1 -LOOPCL=0
-LOOPEXT=0 -UNITS=bits -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi
-LIST=45 -DOCALIGN=200 -THR_SCORE=pct -THR_MAX=100 -THR_MIN=0 -ALIGN=15
-MODE=LOCAL -OUTFMT=pto -NORM=ext -HEAPSIZE=500 -MINLEN=0 -MAXLEN=200000000
-USER=US10029345_@CGN 1 1 128 @runat 21062004 122814_4167 -NCPU=6 -ICPU=3
-NO_MMAP -LARGEQUERY -NEG_SCORES=0 -WAIT -DSPELOCK=100 -LONGLOG
-DEV_TIMEOUT=120 -WARN_TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPOP=6
-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                        score greater than or equal to the score of the result bein and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB DB
   1564
1552
1552
1552
1552
1552
1552
1552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein search, using frame_plus_n2p model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Xgapop 10.0
Ygapop 10.0
Fgapop 6.0
Delop 6.0
                                                                                                                                                                                         Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A_Geneseq_29Jan04:*
1: genesecon19a^---
                                                                                                                                                                                                                                                                                          is the number of results predicted by chance to have a ster than or equal to the score of the result being printed,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-029-345A-108_COPY_538_1443
1627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     June 21, 2004, 12:28:21; Search time 43.4105 Seconds (without alignments)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1586107 segs,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                atggcccatgagatgattgg.....agaagattaagaaccagact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Copyright
                                                                                                                                                                                                                                                                                                                                                                                             geneseqp1980s:*
geneseqp1990s:*
geneseqp2000s:*
geneseqp2001s:*
geneseqp2002s:*
                                                                                                                                                                                                                                                                                                                                             geneseqp2003as:*
geneseqp2003bs:*
geneseqp2004s:*
                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Match
   . . . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                           멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Xgapext
Ygapext
Fgapext
Delext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           282547505 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100%
                   ABB97946
AAU79929
                                                  ABR52381
ABR52407
AAE04834
AAU09016
AAU79156
AAU09946
AAU75789
                                                                                                                                                                                           Ħ
                                                                                                                                                                                                                                             SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (without alignments)
11793.817 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3172214
Abr52381 Protein r
Abr52407 Protein r
Aae04834 Human SGP
Aau09016 Human dua
Aau09916 Human dua
Aau09946 Protein s
Aau75789 Human pro
Abb97946 Human pro
Aau79929 Human dua
Abb97291 Novel hum
                                                                                                                                                                                         Description
```

428	440.5	440.5	61	61	62	67	~1	469	469	469	469	469	476	5	654.5	15	716	740	741	742.5	985	985	988	988	988	4	ď	LT	1542	(J)	in	54	1545	55
6	27.1	7.	8	8	8	8	8.	8	8	8	8	8	9.	0		4.	.4	5	5	5	0		0		0	ŗ	ü	٠.	4.	4.	94.9	4.		95.4
94	419	83	81	81	81	18	18	82	82	82	82	44	82	70	70	79	40	17	40	75	63	63	25	25	25	60	64	02	65	72	65	65	65	99
AAGE	6 ABP55026	AAE14		ADD46	ABP57	ABP9680	ABR52	ABJ05	ABR52	AAB29	AAB18	AAO2	AAB73	AAE06	AAB66	ADE08	ABR52	AAU7	ABR	ABG	ABR	AAW29	ABG	ABR	ABR5	ABR5238	ABR52	ABR52	AAU7916	AAM25	ABR52	AAU79	ADA54	AAB
- 6	Human	14240 Human	62	8300 Rat F		6803 Human		Breas	Abr52384 Protein r	Human	A hun	Protei	Human	Human	Human	Novel	Pepti	Aau79159 Human dua	Pepti			U		Abr52350 Protein r	Protein	Protein	Prote	Prote	Human d	Human		Human	Human	25 Human

ALIGNMENTS

ABR52381;

ABR52381 standard;

protein;

665

A

```
RESULT 1
ABRES 20
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABRES
XX
ABR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  antiproliferative; hepatotropic; nephrotropic; antiarthritic; antipsoriatic; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart defect; thuman; mouse; yeast; rat; fruitfly.
                                                                                                                                                                                                                                         20-DEC-2000; 2000US-0256868P.
30-MAR-2001; 2001US-0280186P.
01-MAY-2001; 2001US-0287735P.
05-UUN-2001; 2001US-0295848P.
25-UUN-2001; 2001US-0300465P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Protein relating to the invention SEQ ID NO: 109.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            19-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20-DEC-2001; 2001WO-US050459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200257460-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens.
                                                                                                                                                 (BRIM ) BRISTOL-MYERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                 SQUIBB CO
```

Jackson DG, Siemers N,

Feder J, Nelson T, Bol D, Schieven G,

Finger J,

Mintier G, Ramanathan Finger J, Todderud CG,

C, Lee L;
Bassolino D;

```
US-10-029-345A-108_COPY_538_1443 (1-906) x ABR52381 (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alignment
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to a novel isolated nucleic acid comprising a CC polynucleotide having a nucleotide sequence selected from 40 crown provided from 40 crown provided from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown from 40 crown 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 665 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 5; Fig 12; 801pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Novel polynucleotides encoding the prevention or treatment of
                                                     161
                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Krystek S,
                                                                                                                                       141
                                                                                                                                                                                 421
                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                             101
                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                   81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                     GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                             LeuAladlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                  CTTGCAGGTGGGTTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC 420
                                                                                                                                                                                                                                                                                                                                                                CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                        CACATITIGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGTGGAACGGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mcatee P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.18e-170
1564.00
100.00%
100.00%
100.00%
96.13%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Suchard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       human phosphatase polypeptides useful e.g. proliferative and cardiovascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Banas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    665
302
0
                                                               540
                                                                                                           160
                                                                                                                                                                                             140
                                                                                                                                                                                                                                                                                                                                                                     100
                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                         80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            in
       RESULT 2
ABRS2407
ID ABRS2
XX ABRS2407
ID ABRS2
XX ABRS2407
ID ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABRS2
XX ABR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뭥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                    Jackson
Siemers
Krystek
       Disclosure;
                                                                                                                                     N-PSDB;
                                                                                                                                                                                                                                                                                          (BRIM )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25-JUL-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200257460-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Protein relating to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABR52407;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABR52407
                                                                                                                                2002-599721/64.
)B; ACC60572.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sapiens.
                                                                                                                                                                                               s, NG
                                                                                                                                                                                                                                                                                 BRISTOL-MYERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           standard;
Fig 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           906
801pp;
```

Score:

밁 ð д S 밁 δ 밁 Ś 밁 Ś 밁 Ş 멍 Ş В Ş 밁 Ś

```
20-DEC-2000; 2000US-0256868P.
30-MAR-2001; 2001US-0280186P.
01-MAY-2001; 2001US-0287735P.
05-JUN-2001; 2001US-0295848P.
25-JUN-2001; 2001US-0300465P.
Novel polynucleotides encoding human phosphatase polypeptides useful the prevention or treatment of e.g. proliferative and cardiovascular
                                                                                                                                                                                                                                                                                                                                                                                                       antiproliferative; hepatotropic; nephrotropic; antiarthritic; antiproliferative; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart decongestive heart failure; cancer; human; mouse; yeast; rat; fruit;
                                                                                                                                                                                                                                                                                              20-DEC-2001; 2001WO-US050459.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                        Feder J, Nelson T,
Bol D, Schieven G,
Mcatee P, Suchard S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTAGTGCACTGTTTAGCTGGGATCTCCGGCTCCGGCACCATCGCTATCGCCTACATCATCATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGTGGTTGGACAAATCAGTAGAATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          the invention SEQ ID NO: 148.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                entry)
                                                                                                                                                                       SQUIBB
                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           665
                                                                                                   Mintier G, Ramanathan Finger J, Todderud CG, Banas D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A
                                                                                                                                                                                                                                                                                                                                                                                                          ongenital heart defect; yeast; rat; fruitfly.
                                                                                                              C, Lee L;
Bassolino
                                                                                                              D,
                     ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   200
```

```
Best I
Query
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similari
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-108_COPY_538_1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to a novel isolated nucleic acid comprising a polynucleotide having a nucleotide sequence selected from 40 polynucleotide for a trip a nucleotide sequence selected from 40 polynucleotide fully defined in the specification. The polynucleotide of the invention has antiproliferative, hepatotropic, nephrotropic, antiarrhritic, antipsoriatic, cardiant, and cytostatic activity. The polynucleotide may have a use in gene therapy. A polynucleotide or polypeptide of the invention is useful for preventing, treating or polypeptide of the invention, e.g. a proliferative disorder. They are also useful for treating e.g. liver disease, renal failure, immunological disorders including arthritis and psoriasis, cardiovascular disorders such as congenital heart defects and congestive heart failure, and cancer. A method of the invention is useful for diagnosing a pathological condition or susceptibility to a condition in a subject. The present sequence is used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 665
                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                           141
                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                        101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                   161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -
                            ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                         GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                        ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                   CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                         ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                              LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                    CTTGCAGGTGGGTTTGCTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                          AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.18e-170
1564.00
100.00%
100.00%
96.13%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (1-906) x ABR52407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              302
0
0
                                                                                                              200
                                                                                                                                                                                   180
                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                             160
                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                    140
                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                  220
                                                                       660
                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20
```

중 유

밁

ર્ક

B र् 밁 र् 닭

Novel phosphatase polypeptide useful for treating cand diseases and disorders, cardiovascular disease, brain associated diseases and metabolic disorders.

cancers, immune-related or neuronal

유정

멍

5

δ

밁

ર્

문

S 밁 र्

ક

밁

```
RESULT 3
AABO4834
IID AAABO
XX
AAAB04834
AC AAABO
XX
AC AAABO
XX
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10-S
DT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                  Plowman
Hill RJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human; SGP002 phosphatase polypeptide; phosphatase-related disease; immune-related disorder; ocular disease; organ transplant rejection; infection; diabetes; pain; sexual dysfunction; Alzheimer's disease; metabolic disorder; haematopoietic cancer; mood disorder; cardiant; Parkinson's disease; multiple sclerosis; amyotrophic lateral sclerosis; cardiovascular disease; brain; neuronal-associated disease; dyskinesia; attention disorder; cognition disorder; psychotic disorder; cycostatic; neuroprotective; antibacterial; vulnerary; tranquilliser; antiasthmatic; hypotensive; immunosuppressive; antipsociatic; analgesic; hypotensive; antipsociatic; antipsociatic; analgesic; hypotensive; antipsociatic; antipsociatic; analgesic; hypotrensive; antipsociatic; antipsociatic; antipsociatic; antipsociatic; antipsociatic; antipsociatic; antipsociatic; antipsociatic; chromosome 12p11.1-p12.1.
                                                                                                                                                                                                                                                                                                                     21-DEC-1999; 99US-0173255P.
28-DEC-1999; 99US-0175766P.
25-JAN-2000; 2000US-0178078P.
31-JAN-2000; 2000US-0179301P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                21-DEC-2000; 2000WO-US034736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200146394-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAE04834;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAE04834 standard; protein; 665
                                                                                                                                                                                                                                                                          (SUGE-)
                                                                                                                          2001-418058/44.
DB; AAD09492.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SGP002 phosphatase polypeptide
                                                                                                                                                                           1 GD, Pu...
T. Flanagan
                                                                                                                                                                                                                                                                          SUGEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCCTATCGCCTACATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                  Martinez
lanagan P;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                          INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /label= Catalytic_domain
158. .297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Phosphatase_domain
                                                                                                                                                                                                                         Whyte
                                                                                                                                                                                                                         á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₽
                                                                                                                                                                                                                         Manning
                                                                                                                                                                                                                         ຸດ
                                                                                                                                                                                                                            Sudarsanam
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       780
```

7;

Fig

2; 186pp; English.

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-029-345A-108_COPY_538_1443 (1-906) x AAE04834 (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             x \times 555555555555555555555555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The present invention relates to phosphatase polypeptides, nucleotide CC sequences encoding them, as well as various products and methods useful CC for the diagnosis and treatment of various phosphatase related diseases and conditions. Substance that modulates the activity of phosphatase CC and conditions. Substance that modulates the activity of phosphatase CC cardiovascular disease, brain or neuronal-associated diseases and disorders, cC metabolic disorders, including cancers of tissues, cancers of themselves, cancers of phosphatase cC haematopoietic origin, diseases of central and peripheral nervous system, cC haecimer's disease, Parkinson's disease, multiple sclerosis, amyotrophic CC lateral sclerosis, viral infections, infections caused by prions, cC dysfunction, mood disorders, attention disorders, migraines, pain, sexual CC dysfunction, hypertension, psychotic disorders, cognition disorders, cC dysfunction, mood disorders, attention disorders, neurological disorders, cC dysfunction, summan ScP002 phosphatase polypeptide. This sequence is human ScP002 phosphatase polypeptide. This sequence is phosphatase (MKP). SGP002 gene maps to chromosomal position 12p11.1-p12.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          No.:
                                                                                     541
                                                                                                                        161
                                                                                                                                                      481
                                                                                                                                                                                        141
                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                      101
                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                    81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                              GlnGinAsnGlyTleGlyTyrValLeuAsnAlaSerAsnThrCysProLysProAspPhe
                                                     CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                             ArgileLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuMet
                                                                                                                                                             ThrLeuvalproThrcysileSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                               ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC 480
                                                                                                                                                                                                                                                 CTTGCAGGIGGGTTTGCTGAGGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                           LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                               GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                             AspCysPheLeuThrvalLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                         CysserdinLysvalvalvalTyrAspGinSerserGinAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                       AspLysValLeuileThrGluLeuileGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                              HisileLeuGluAlaileAsnij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CACATTITGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SerglythrdluLysvalLeuLeuIleAspSerArgProPhevaiGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MetālaHisGiumetileGlyThrGlnileValThrGluArgLeuValālaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2.85e-169
1552.00
99.67%
99.34%
95.39%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         {\tt leAsnCysSerLysLeuMetLysArgArgLeuGlnGln}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
 660
                                                               600
                                                                                               180
                                                                                                                                                               160
                                                                                                                                                                                                                             140
                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                           100
                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                           80
                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20
```

문 δ 밁 Ś В Ś В Ś 뭥 Ş 밁 Ś В Ś 밁 Ś 밁 Ş

specificity phosphatases

```
RESULT 4
AAU09016
                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                   뭐
                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
The invention relates to two novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
              Claim 9; Fig 1; 143pp; English.
                             New human dual of disease and
                                                  WPI; 2001-611635/70.
N-PSDB; AAS14639.
                                                                       Meyers
                                                                                              24-MAR-2000; 2000US-0191858P
                                                                                 (MILL-) MILLENNIUM PHARM INC
                                                                                                            23-MAR-2001; 2001WO-US009477
                                                                                                                                         WO200173059-A2
                                                                                                                                                             Active-site
                                                                                                                                                                                  Domain
                                                                                                                                                                                               Domain
                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                     Human; dual
                                                                                                                                                                                                                                                                               Human dual specificity phosphatase 21117.
                                                                                                                                                                                                                                                                                                  18-DEC-2001
                                                                                                                                                                                                                               mmunogen.
                                                                                                                                                                                                                                                                                                                        AAU09016 standard; protein; 665 AA.
                                                                                                                                                                                                                               myeloid leukaemia; carcinoma; sarcoma; metastatic
                                                                                                                                                                                                                                                                                                                                                      301 GinThr 302
                                                                                                                                                                                                                                                                                                                                                                    901
                                                                                                                                                                                                                                                                                                                                                                                  281
                                                                                                                                                                                                                                                                                                                                                                                                             261
                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           201
                                                                                                                                                                                                                                                                                                                                                                       IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                   CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                           LysArgMetAspMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 specificity polypeptides and nucleic treatment of e.g. liver disorders.
                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                       242. .254
/label= Tyrosine_specific_protein_phosphatase_active_site
                                                                                                                                                                                /label=
158. .29
                                                                                                                                                         /label= Catalytic domain
/note= "Dual specificity phosphatase catalytic domain"
                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                               .297
                                                                                                                                                                                   Rhodanese-like domain
                                                                                                                                                                                                                                                                                                                                                                                                  :SerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
human dual
                               acids
                             for diagnosis
                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                  280
                                                                                                                                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                                                                                                                                                                                                                              260
                                                                                                                                                                                                                                                                                                                                                                                                                                          780
                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  220
```

```
Best Local (
Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-029-345A-108_COPY_538_1443 (1-906) x AAU09016 (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            designated 21117 and 38692, the nucleic acids encoding them (including fragments, allelic variants, their complements or nucleic acids that hybridise to them) and antibodies raised against the proteins. The antibody is useful for detecting the presence of the polypeptide, and the nucleic acid, for diagnosing disease. Agents (e.g. the antibody and antisense sequences) are useful for modulating the activity or expression of the polypeptide/nucleic acid, useful for the treatment of e.g. thematopoletic disorders, autoimmune disorders (e.g. diabetes mellitus, rhematopoletic disorders, autoimmune disorders (e.g. diabetes mellitus, cor hematopoletic disorders, autoimmune disorders, erythroid associated disorders (e.g. haemolytic anaemia) cellular proliferative or disorders (e.g. haemolytic anaemia) cellular proliferative or disorders (e.g. haemolytic anaemia) cellular proliferation, survival, and sociated conferentiative disorders, leukaemia) cellular proliferation, survival, and sociated sociates (e.g. acute myeloid leukaemia) cellular proliferation, survival, and sociated conferentiation of a 38692 or 21117-expressing cell. The polypeptide and nucleic acids are useful for identifying modulating agents. The present sequence represents the dual specificity phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NO . :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Match:
                                                                                                                                                                                                                               141
                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                101
                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                          181
                                                                                                                                     161
                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                        GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerAsnThrCysProLysProAspPhe
                                                                     CAGCAGAATGGGATTGGTTATGTGTTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                           ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuMet
                                                                                                                                                          CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                           ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                   ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                 LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                              CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                           AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                     GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2.85e-169
1552.00
99.67%
99.34%
95.39%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
1
0
0
                                                                                                                                     180
                                                                                                                                                                                540
660
                                                                                        600
                                                                                                                                                                                                                           160
                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   40
                                             200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20
```

В S 밁 S 밁 δ र् 밁 ঠ

밁

ঠ

밁

8 문 δ 밁 ð

ર્ 밁

```
RRSULT 5
AAUT91156
ID AAUT7
XX
AAUT91176
AC AAUT7
XX
AX
BY
AC AAUT7
XX
BY
AC AAUT7
XX
BY
AC AAUT7
XX
BY
AC AAUT7
XX
BY
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
AC CALL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          문
The present invention relates to a new polypeptide, DSP-16, having a amino acid sequence, given in the specification, or a variant having least 50 % identical residues, which retains behility to dephosphorylate an activated mitogen-activated protein (MAP) kinase. invention can be used for identifying agents which modulate DSP-16 activity, for modulation of a proliferative response in a cell, survi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Key
Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; dual-specificity phosphatase-3; DSP-16; autoimmune disease; mitogen-activated protein kinase; MAP; Duchenne muscular dystrophy; cancer; graft-versus-host disease; allergy; metabolic disease; abnormal cell growth; abnormal cell proliferation; contact inhibition cell cycle abnormality; anchorage independent cell growth; apoptosi intercellular adhesion; DSP-16 modulator; chromosome 12p.
                                                                                                                                                                          Claim 1;
                                                                                                                                                                                                                                                                           New DSP-16
                                                                                                                                                                                                                                                                                                                           N-PSDB; ABK47596.
                                                                                                                                                                                                                                                                                                                                                                                                  Luche RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human dual-specificity phosphatase-3 (DSP-16) protein.
                                                                                                                                                                                                                        Duchenne muscular dystrophy,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26-SEP-2000; 2000US-0235487P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25-SEP-2001; 2001WO-US030124.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200226997-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    02-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAU79156;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAU79156 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   (CEPT-) CEPTYR INC.
                                                                                                                                                                                                                                                                                                                                                  2002-315802/35.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGACT
                                                                                                                                                                          Fig 2; 87pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCCAAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                 s polypeptide, useful for identifying modulators which can be used in the treatment of disorders
                                                                                                                                                                                                                                                                                                                                                                                                  Wei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first
                                                                                                                                                                                                                                                                                                                                                                                                  В,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers 242. .251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 entry)
                                                                                                                                                                          English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Active_site_domain
                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                             cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₿
                                                                                                                                                                                                                                                 s of its
s such as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  inhibition; apoptosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               220
```

```
Alignment Scores:
Pred. No.:
Score:
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-029-345A-108_COPY_538_1443 (1-906) x AAU79156 (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ភ្នំភ្នំភ្នំភ្នំភ្នំភ្នំ ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង ក្នុង
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of a cell, or differentiation of a cell. The cell displays contact inhibition of cell growth or anchorage independent growth and may display cell cycle. The identified modulators can be used to treat Duchenne diseases, allergies, metabolic diseases, abnormal cell growth, burnen cell proliferation, and cell cycle abnormalities. The present amino acid protein of the invention. This sequence is encoded by the human DSP-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 665 AA;
                                                          721
                                                                                                        221
                                                                                                                                                                                                   201
                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                       161
                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         41
CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21
                                                                                                  CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                       ProTrpLeuAspLysSerValAspPheileGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                             GlnGlnAsnGly1leGlyTyrValLeuAsnAlaSerAsnThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                         CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                  μ
                                                                                                                                                                                                                                                                                                                                                           ArgileLeuProAsnLeuTyrLeuGlyCysGlnArgAspvalLeuAsnLysGluLeuMet
                                                                                                                                                                                                                                                                                                                                                                                    CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CysserGinLysvalvalvalTyrAspGinSerSerGinAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HistieLeuGluAlaileAsnileAsnCysSerLysLeuWetLysArgArgLeuGlnGin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AspLysValLeuIleThrGluLeuIleGlnHisSerAiaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SerGlyfhrdluLysvalLeuLeuIleAspSerArgProPhevalGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2.85e-169
1552.00
99.67%
99.34%
95.39%
5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
1
1
0
                           780
                                                                         240
                                                                                                                    720
                                                                                                                                                                    220
                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                200
                                                                                                                                                                                                                                                                                                                                                                                                                                                    160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20
```

밁 δ В Ś В S 밁 Ş В

В Ś В Ś 밁 Ş 밁 Ś В Ś В á B Ś

```
The present invention relates to a new isolated dual specificity CC phosphatase (DUSP10) polypeptide, comprising a 665 residue amino acid CC sequence that is fully defined in the specification. The invention also CC in the specification, and a sequence having at least 95 % identity to the CC in the specification, and a sequence having at least 95 % identity to the CC for treating cancer e.g. leukaemia, colon carcinoma, lung cancer (polypeptide, or fragments or variants of DUSP-10. The invention is useful CC prostate cancer, metastasis of tumour cells, neo-angiogenesis, epilepsy, CC stroke, neuronal degeneration syndromes, Alzheimer's disease, depression, CC stroke, neuronal degeneration syndromes, Alzheimer's disease, depression, CC osteoporosis, diabetes and diabetes associated disease, type I diabetes, consponse in a mammal, in disease diagnosis and in assays for screening CC agonistic or antagonistic compounds. Other uses of the invention include in chromosome localisation studies, and as a valuable tool in tissue captures and disease, the present sequence represents the dual specificity protein of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 6
AAU09946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      日
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                     Novel dual specificity phosphatase polypeptides useful for treating cancers, epilepsy, stroke, neuronal degeneration syndromes, Alzheimer's disease, depression, schizophrenia, asthma and immune disorders.
                                                                                                                                                                                                                                                                                                    Claim 2; Page 37-39; 43pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10-APR-2000; 2000EP-00107143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     06-APR-2001; 2001WO-EP003966.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (MERE )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200177340-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; dual specificity phosphatase; DUSP-10; cancer; epilepsy; stroke; neuronal degeneration syndrome; Alzheimer's disease; depression; schizophrenia; asthma; immune disorder; inflammatory process; arthritis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Protein sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18-JUN-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAU09946;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAU09946
                                                                                                                                                                                                                                                                                                                                                                                               2002-010917/01.
DB; AAS15768.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MERCK PATENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            standard; protein; 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of human (dual specificity phosphatase) DUSP-10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         280
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                       음 성
                                                                             음 성
                                                                                                   문
                                                                                                              · 참 문
                                                                                                                                   ঠ
            문
                        र्
                                     음 중
                                                                                                                                                                                             밁
                                                                                                                                                                                                    S
                                                                                                                                                                                                               문
                                                                                                                                                                                                                          ક
                                                                                                                                                                                                                                        음 성
                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                            문
                                                                                                                                                                                                                                                                                                                                         ş
                                                                                                                                                                                                                                                                                                                                                   US-10-029-345A-108_COPY_538_1443
                                                                                                                                                                                                                                                                                                                                                                                           Alignment Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                Scores:
                281
                                                                                            661
                                                                                                       201
                                                                                                                  109
                                                                                                                                       541
      901
                           841
                                                 781
                                                            241
                                                                      721
                                                                                  221
                                                                                                                            181
                                                                                                                                                  161
                                                                                                                                                             481
                                                                                                                                                                        141
                                                                                                                                                                                  421
                                                                                                                                                                                              121
                                                                                                                                                                                                        361
                                                                                                                                                                                                                   101
                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                    41
                                                                                                                                                                                                                                                                                                          21
                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                \vdash
CAGACT
                                                                                GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                             ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                      ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                     ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAAATTTTG
                                                                                                                            GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerAsnThrCysProLysProAspPhe
                                                                                                                                  CAGCAGAATGGGATTGGTTATATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                 AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                         GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                        IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                               2.85e-169
1552.00
99.67%
99.34%
95.39%
                                                                                                                                                                                                                                                                                                                                                    (1-906) x AAU09946
                                                                                                                                                                                                                                                                                                                                                              Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                    (1-665)
                                                                                                                                                                                                                                                                                                                                                                0011
                                                                                                                                                                                                                                                                                                                                                                                    300
                           900
                                                                                                                                       600
                                                                                                                                                  180
                                                                                                                                                                        160
                                                                                                                                                                                                                                         100
                                                                                                                                                                                                                                                   300
                 300
                                                 840
                                                            260
                                                                       780
                                                                                            720
                                                                                                       220
                                                                                                                  660
                                                                                                                            200
                                                                                                                                                                                  480
                                                                                                                                                                                             140
                                                                                                                                                                                                        420
                                                                                                                                                                                                                   120
                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                              80
                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                         40
                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                               20
```

```
RESULT 7
AAUT5789
ID AAUT5789
ID AAUT5789
ID OAAUT
XX AAUT5789
AX AAUT5789
AX AAUT5789
AX AAUT5789
AX AAUT5789
AX AAUT5789
AXX Humm
XXX Humm
XXX Humm
XXX Ccell
XXX Ccell
XXX Ccell
XXX Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
FT Regi
F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                            28-JUL-2000; 2000US-0221679P.
03-AUG-2000; 2000US-0223272P.
10-AUG-2000; 2000US-0224309P.
18-AUG-2000; 2000US-0226728P.
30-AUG-2000; 2000US-0229254P.
08-SEP-2000; 2000US-0231366P.
                                                                                                                                                                                                                                                                                    Tang YT, Elliott Vs, nam... Stewart EA, Gandhi AR, Pa Tribouley CM, Griffin JA, Walia NK, Kearney L;
                                                                                                                                       New protein phosphatases, useful for diagnosing, treating or immune system disorders (e.g. Crohn's disease), neurological (e.g. Parkinson's disease), or cell proliferative disorders (cancers).
                                                                                                    Claim
                                                                                                                                                                                                                                              WPI; 2002-188735/24.
N-PSDB; ABK14474.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     acquired immunodeficiency syndrome; thymic hypoplasia; anaemia; asthma; crohn's disease; neurological disorder; epilepsy; Huntington's disease; dementia; Parkinson's disease; developmental disorder; bown's syndrome; cell proliferative disorder; cancer; adenocarcinoma; leukaemia; lymphomu
                                                                                                                                                                                                                                                                                                                                                                                                       (INCY-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-JUL-2001; 2001WO-US023716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200210363-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   melanoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    08-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAU75789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                  ۲
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein
                                                                                                                                                                                                                                                                                                                                                                                                         INCYTE
                                                                                                  Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   myeloma sarcoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                         GENOMICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   phosphatase 7; PP7; immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            site tyr_phosphatase.prf"
242. .254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /label=
15. .170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  242.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note= "Dual
220. .281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /label= Catalytic_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .298
                                                                                                                                                                                                                                                                                                                     Ramkumar J,
?, Patterson (
1 JA, Baughn P
                                                                                                  117pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "VH1-type dual specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Dual
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Tyrogine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           _Rhodanese_like_domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (PP7)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 lytic_domain_DSPc
specificity_phosphatase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    specificity protein
                                                                                                  English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           specific protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein
                                                                                                                                                                                                                                                                                                                         ¥,C
                                                                                                                                                                                                                                                                                                               Yao MG, Burford N, wan
C, Lee EA, Hafalia AJA,
MR, Yue H, Warren BA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     system disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        phosphatase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           phosphatases"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              phosphatases
                                                                                                                                                                                                                                                                                                                                                           Wang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                phosphatase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AIDS
                                                                                                                                                          l disorders (e.g.
                                                                                                                                                                                                                                                                                                                       Nguyen
                                                                                                                                                                                                                                                                                                                                              Lu
YB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                active
                                                                                                                                                                                                                                                                                                                         DAM;
en DB;
```

The present invention relates to a new polypeptide, a naturally occurring amino acid sequence at least 95 % identical to it, a biologically active fragment of it or an immunogenic fragment of it. The polypeptides, polynucleotides, agonists and antagonists are useful for diagnosing,

```
В
                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-029-345A-108_COPY_538_1443 (1-906) x AAU75789 (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ត្តត្តត្តត្តត្តត្តត្តន្ត<sup>™</sup>្ត្ត
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           treating or preventing disorders associated with aberrant expression of protein phosphatases (PP), particularly immune system disorders e.g. acquired immunodeficiency syndrome (AIDS), thymic hypoplasia, anaemia, Huntington's disease, neurological disorders e.g. epilepsy, disorders e.g. ben's disease, dementia or Parkinson's disease, developmental cancers including adenocarcinoma, or cell proliferative disorders e.g. or sarcoma. The present amino acid sequence represents human protein phosphatase 7 (PP7) which is one of several human protein phosphatases (AAU75793-AAU75792) of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 665 AA;
                                                       221
                                                                              661
                                                                                                      201
                                                                                                                            601
                                                                                                                                                    181
                                                                                                                                                                              541
                                                                                                                                                                                                    161
                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                    141
                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                    101
                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                  81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  41
                                   ProtrpueuAspLysserValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                  CCGTGGTTGGACAAATCAGTAGATTTCAGTTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                  CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                   īleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                  GlnGlnAsnGly1leGlyTyrValLeuAsnAlaSerAsnThrCysProLysProAspPhe
                                                                                                                                                                                   ArgileieuProAsnieuTyrLeuGlyCysGlnArgAspValleuAsnLysGluLeuMet
                                                                                                                                                                                                                                 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               н
                                                                                                                                                                                                                                                                                 LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                   AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                 GACTGITTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                CysserdinLysvalvalvalTyrAspGinSerserGinAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                              CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HisileLeudiuAlaileAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MetalaHisGiumetileGlyThrGlnileValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2.85e-169
1552.00
99.67%
99.34%
95.39%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
1
1
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                myeloma
                                   240
                                                             720
                                                                                   220
                                                                                                            660
                                                                                                                                   200
                                                                                                                                                                                                           540
                                                                                                                                                           600
                                                                                                                                                                                   180
                                                                                                                                                                                                                                   160
                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                   140
                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                 100
                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20
```

Ş д

밁 5 밁 S 당 Ś 밁 Ś 밁 S 맑 Ś В

Ś

ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA

```
ABB97946
ABB97946
ABB97946
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABB9
ACC ABC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
ACC ACC
US-10-029-345A-108_COPY_538_1443 (1-906) x ABB97946 (1-665)
                                                                       Query Match:
DB:
                                                                                                      Percent Similarity:
Best Local Similarity:
                                                                                                                                                                         Alignment Scores: Pred. No.:
                                                                                                                                                           Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                   The invention relates to DNA encoding polypeptides directly cloned from cDNA libraries originating in adult whole brain, human tonsil, human adult hippocampus and human foetal whole brain. Polypeptides and differential expression of the DNA sequences in the investigation of disease patients. They may also be used in the production of antibodies, drugs for treatment of diseases with which the production of antibodies, darys for treatment of diseases with which the DNA sequences are associated. The sequences given in records ABB97934-ABB97964 represent human proteins of the invention
                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 1(a); Page 112-116; 238pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Genes and their expression products cloned from human cDNA libraries treatment and diagnosis of diseases associated with their expression.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ohara o,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (KAZU-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            22-DEC-2000; 2000JP-00389742.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20-DEC-2001; 2001WO-JP011217.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            04-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200252005-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              06-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABB97946;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABB97946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2002-500762/53.
DB; ABN83966.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein sequence #13.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   261
                                                                                                                                                                                                                                         665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KAZUSA DNA RES INST FOUND CELESTAR LEXICO-SCI LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nagase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GlnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                {\tt LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet}
                                                                                                                                                                                                                                         ₽,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tonsil; hippocampus;
                                                           2.85e-169
1552.00
99.67%
99.34%
95.39%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ţ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          665
                                                                  Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                foetal brain; diagnosis.
                                             300
1
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
```

```
Human dual
                         02-JUL-2002
                                                         AAU79929
                                                                                           301
                                                                                                                                           841
                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                    141
                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                         901
                                                                                                                           281
                                                                                                                                                             261
                                                                                                                                                                             781
                                                                                                                                                                                                             721
                                                                                                                                                                                                                              221
                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                 201
                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                  161
                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                      101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            _
                                                                                                                                                                                            CTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                         standard;
                                                                                           GlnThr
                                                                                                           CAGACT
                                                                                                                                    ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                     ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                        CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                              ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                 GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerAsnThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                  CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                  CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                  ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                            ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                  LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                             CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                      AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                               GACTGTTTTCTCACCTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HislleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                            LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
       specificity phosphatase
                         (first entry)
                                                                                                          906
                                                         protein;
                                                          665
                                                          ጅ
        21117
                                                                                                                                                                             840
                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                  600
                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                            900
                                                                                                                                                             280
                                                                                                                                                                                             260
                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                                220
                                                                                                                                                                                                                                                                                 660
                                                                                                                                                                                                                                                                                                 200
                                                                                                                                                                                                                                                                                                                                                                    160
                                                                                                                                                                                                                                                                                                                                                                                                     140
                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
                                                                                                                                                                                                                                                720
```

음 성

음 성

유 성

```
Human; dual specificity phosphatase 21117; erythroid-related disorder; haematopoietic-related disorder; leukaemia; autoimmune disease; anaemi erythrocytosis; liver-related disorder; cancer.
                                                                   anaemia;
```

sapiens

```
Region
                                                                                                                                                                                                                                                                                                 Key
                                        Region
                                                        Region
                                                                         Region
                                                                                          Region
                                                                                                           Region
                                                                                                                          Region
                                                                                                                                           Region
                                                                                                                                                            Region
                                                                                                                                                                            Region
                                                                                                                                                                                                      Active-site
                                                                                                                                                                                                                       Region
                                                                                                                                                                                                                                      Domain
                                                                                                                                                                                                                                                      Region
                                                                                                                                                                                                                                                                       Region
                                                                                                                                                                                                                                                                                         Domain
                        /note=
                                                                                                                                             369.
                                                 /note=
                                                                  /note=
                                                                                                                                                                                                                                              /note=
                                                                                                                                                                                                                                                                              /label= Rhodanese_like_domain
                                                                                                                                                                                                                                                                                              Location/Qualifiers
               note=
                                                                                   note=
                                                                                                   note=
                                                                                                                   'note=
                                                                                                                                                    note=
                                                                                                                                                                     note=
                                                                                                                                                                                                                                                               /note= "Casein kinase II
                                                                                                                                                                                                                      e= "Dual"
.217
                                        e= "Casein
.615
                                                                                                                                                                                                                                                        . 94
        . 645
                        .620
                                                         .592
                                                                         .511
                                                                                          .461
                                                                                                          .437
                                                                                                                           . 424
                                                                                                                                           .372
                                                                                                                                                            .269
                                                                                                                                                                                                                                      .297
               "Casein
                                                                                                                                                                     "C-X5-R
                                                                                                                                                                                                                                              "Casein kinase II phosphorylation
                                                                                                                                                    "Casein kinase
                                                                                                                                                                                                              "Casein kinase II
                                                                                                                                                                                                                              specificity
kinase
                                kinase
                                                 kinase
                                                                  kinase
                                                                                   kinase
                                                                                                   kinase
                                                                                                                   kinase II
                                                                                                                                    kinase
                                                                                                                                                                     motif"
                                                                                                                                                                                             specific
H
                               II
                                                H
                                                                 Ξ
                                                                                  H
                                                                                                  II
                                                                                                                                   ï
                                                                                                                                                    ΙI
               H
phosphorylation
                                                                                  phosphorylation
                                                                                                   phosphorylation
                                                                                                                   phosphorylation
                                                                                                                                                                                                              phosphorylation
                                                                                                                                                                                                                              phosphatase catalytic
                                                                                                                                                                                                                                                               phosphorylation
               phosphorylation
                               phosphorylation
                                                phosphorylation
                                                                 phosphorylation
                                                                                                                                                    phosphorylation
                                                                                                                                                                                              protein
                                                                                                                                                                                              phosphatase
site"
                                                                                                                   site"
                                                                                                   site"
                                                                                                                                                                                                               site"
                                                                                                                                                                                                                                                site"
                                                                  site"
                                                                                                                                                                                              active
                                                                                                                                                                                                                               domain"
```

중 유

밁

S 밁 중 유 S 닭 ð 日 ð

US2002034807-A1

23-MAR-2001; 2001US-00816494.

24-MAR-2000; 2000US-0191858P

(MEYE/) MEYERS W

Meyers 8

WPI; 2002-351088/38 N-PSDB; ABK49402.

New nucleic acids, designated 38692 and 21117, encoding dual specificity phosphatases for treating cell proliferation and differentiation disorders including hematopoietic and erythroid-related disorders and

ક

밁

음 성 음 성 음

S 밁 ર્ફ 밁 ð

Claim 8; Fig 1; 76pp; English

The present invention relates to new nucleic acids designated 38692 and 21117 encoding dual specificity phosphatease family members. The nucleic acid, polypeptide encoded by it, and antibody specific for the polypeptide may be used to diagnose and treat haematopoietic-related disorders such as leukaemias and autoimmune diseases, erythroid-related disorders such as anaemias and erythroitosis, liver-related disorders, particularly of the breast, colon, adipose, prostate and lung. The present amino acid sequence represents the human dual

Percent Similarity:
Best Local Similarity:
Query Match:

2.85e-169 1552.00 99.67% 99.34% 95.39% 5

Score:

No.:

ន្តន្តន្ត

specificity phosphatase above

Sequence 665

A

300

```
US-10-029-345A-108_COPY_538_1443 (1-906) x AAU79929 (1-665)
                       ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC
                                                        CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                      CCGTGGTTGGACAATCAGTAGATTTCAGTTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                 ProtrpieuAsplysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                          ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                            IleProdiuserHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                         GlnGlnAsnGlyTleGlyTyrvalLeuAsnAlaSerAsnThrCysProLysProAspPhe
                                                                                                                                                                                                                                                      CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                     ArgīleLeuProAsnLeuTyrLeuGlyCysGlnArgAspvalLeuAsnLysGluLeuMet
                                                                                                                                                                                                                                                                                                                                 ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                        CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC 420
                                                                                                                                                                                                                                                                                                                                                                         GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CysserGinLysvalValValTyrAspGinSerserGinAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AspLysvaiLeuilethrGluLeuileGlnHisSerAlabysHisLysvalAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       - CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HislleLeuGluAlaTleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGinGin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerGlyrhrGluLysValLeuLeuileAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MetalahisdiumetiledlyThrdinilevalThrdluargieuvalalaieuteuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21117 protein of the invention, as described
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
1
0
0
                                                           280
                                                                                840
                                                                                                      260
                                                                                                                            780
                                                                                                                                                                                             220
                                                                                                                                                                                                                    660
                                                                                                                                                                                                                                                                600
                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100
                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20
                                                                                                                                                                                                            Ş
                                                      뫄
                                                                           Ş
                                                                                US-10-029-345A-108_COPY_538_1443 (1-906) x ABB97291 (1-665)
                                                                                                                                Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                            Pred. No.:
                                                                                                                                                                                      Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                               The present invention provides the protein and coding sequences of 444 (ESTs). They can be used to stimulate cell growth, to regulate e.g. in burn treatment, to regulate the immune system e.g. to treat aplastic anaemia, to help tissue regrowth multiple sclerosis, to regulate the immune system e.g. to treat infertility, to regulate activin or inhibin e.g. to treat and cancer, to screen for drugs, to treat inflammatory conditions e.g. rheumatoid arthritis, and to treat nervous system disorders e.g. Parkinson's disease. The present sequence is a protein of the invention
                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                               Example 2; SEQ ID NO 559; 509pp; English.
                                                                                                                                                                                                                                                                                                                                                               An isolated polynucleotide for treating diseases associated with encoded polypeptide such as cancer and multiple sclerosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Xue AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tang YT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11-SEP-2000; 2000US-00659671.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10-SEP-2001; 2001WO-US026015.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; antianaemic; vulnerary; antiinflammatory; immunomodulator; antiinfertility; cerebroprotective; cytostatic; rheumatic; gene tneuroprotective; antiparkinsonian; protein therapy; EST; expressed sequence tag.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200222660-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel human protein SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABB97291;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABB97291 standard;
                             13
                                                                                                                                                                                                                                                                                                                                                                                                              2002-292408/33.
DB; ABN32477.
                                                                        بر
AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                 665
                                                                                                                                                                                                                                                                                                                                                                                                                                               Yang Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      281
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Liu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlaThr
                                                                                                                                                                                                           AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ile Ser Pro Asn Phe Asn Phe Leu Gly Gln Leu Leu Asp Tyr Glu Lys Lys Ile Lys Asn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                  2.85e-169
1552.00
99.67%
99.34%
95.39%
                                                                                                                                                                                                                                                                                                                                                                                                                                              Zhou P,
Wehrman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein; 665
                                                                                                                                                                                                                                                                                                                                                                                                                                             Asundi V, T, Drmanac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                          Drmanac
                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A
                                                                                                                                                                                                                                                                                                                                                                                                                                          Zhang
RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 'n
                                                                                                        300
1
1
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Zhao
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q,
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ren
                                                                                                                                                                                                                                                                                                                                                                                                                                                T)
                                                                                                                                                                                                                                                                                                                                                                              its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            therapy;
              120
                                   20
                                                        60
```

101 301

81

181 61

121

21 61

بر

41

В Ş 밁 Ś 밁 Ś 밁 Ś 片 Ş 멍 Ş 뭕 Ş 밁 Ś В Ś 뫄 S 皮 Ş 멍 S В Ş Дb Ś

```
RESULT 11
AAB20325
ID AAB20
XX
AC AAB2C
XX
DT 29-MJ
XX
DT 29-MJ
XX
Humar
XX
W Prote
KW Prote
KW Gabt
KW Gabt
KW Gabt
KW Cell
XX
Homo
                                                                                                                                     AAB20325 standard; protein;
                     Protein phosphatase and kinase protein; PPHKP-4; human; gastrointestinal disorder; immune system disorder; neurological disorder; cell proliferative disorder; cancer; diagnosis; therapy.
                                                                                                                AAB20325;
                                                                  Human protein phosphatase and kinase protein-4.
                                                                                         29-MAY-2001
 Homo sapiens
                                                                                                                                                                                    301
                                                                                                                                                                                                        901
                                                                                                                                                                                                                              281
                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                           261
                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                      221
                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                    201
                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181 GACAAAGTGTTAATTACAGAGCTCATCCAGCCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21
                                                                                                                                                                                                    CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                   GinThr 302
                                                                                                                                                                                                                                                                          ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                              IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                          ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                        LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                             CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                    ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                            CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerAsnThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HisīleLeuGluAlaīleAsnīleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                        (first entry)
                                                                                                                                                                                                        906
                                                                                                                                       666
                                                                                                                                       Ą
                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                                                                                                                         260
                                                                                                                                                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                        660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           42C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    40
                                                                                                                                                                                                                                                                           280
                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                  220
                                                                                                                                                                                                                                                                                                                                                                                                                                                               200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            80
  Modified-site
                                                                                                                                       Modified-site
                                                                                                                                                            Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Key
Modified-site
                       Modified-site
                                                                                         Modified-site
                                                                                                                Modified-site
                                                                                                                                                                                  Modified-site
                                                                                                                                                                                                                               Modified-site
                                                                                                                                                                                                                                                     Modified-site
                                                                                                                                                                                                                                                                           Modified-site
                                                                                                                                                                                                                                                                                                  Modified-site
                                                                                                                                                                                                                                                                                                                         Modified-site
                                                                                                                                                                                                                                                                                                                                               Modified-site
                                                                                                                                                                                                                                                                                                                                                                      Modified-site
                                                                                                                                                                                                                                                                                                                                                                                            Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                  Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                        Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Active-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Modified-site
  /note=
641
                                             /note=
                                                                                                                                                                                   /note=
528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                 'note=
                                                                             /note=
                                                                                                                                                                                                                   note=
                                                                                                     'note=
                                                                                                                                                                        note=
                                                                                                                                                                                                                                          note=
                                                                                                                                                                                                                                                                 notes
                                                                                                                                                                                                                                                                                       note=
                                                                                                                                                                                                                                                                                                              note=
                                                                                                                                                                                                                                                                                                                                     note=
                                                                                                                                                                                                                                                                                                                                                          note=
                                                                                                                                                                                                                                                                                                                                                                                'note=
                                                                                                                                                                                                                                                                                                                                                                                                      note=
                                                                                                                                                                                                                                                                                                                                                                                                                              note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                     note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         note= "Y phosphatase signature"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           note= "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     note= "0-phosphorylated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            note= "O-phosphorylated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  note= "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    note= "O-phosphorylated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  note= "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "N-glycosylated"
             "O-phosphorylated"
                                 "O-phosphorylated'
                                                                                                                                                                                                                                                                                                                                                         "O-phosphorylated
                                                                                                                                                                                                                                                                                                                                                                                                     "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                    "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "O-phosphorylated"
                                                                                                                                                                                            "O-phosphorylated"
                                                                                                                                                                                                                                                                 "O-phosphorylated"
                                                                                                                                                                                                                                                                                      "O-phosphorylated"
                                                                                                                                                                                                                                                                                                             "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                "O-phosphorylated'
                                                                                                                                                                                                                                                                                                                                                                                                                             "O-phosphorylated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "tyrosine specific protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "VH1-type dual specificity phosphatase signature"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "O-phosphorylated"
                                                      "O-phosphorylated
                                                                             "O-phosphorylated"
                                                                                                    "O-phosphorylated
                                                                                                                         "O-phosphorylated
                                                                                                                                                "O-phosphorylated
                                                                                                                                                                      "O-phosphorylated
                                                                                                                                                                                                                   "O-phosphorylated
                                                                                                                                                                                                                                          "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                  "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 phosphatase"
```

밁 र् 밁 Ş 밁 ક ঠ

밁 δ

문

음 성

S

밁

밁

ঠ

몽 S 밁 ર્ 밁 ર્ 밁 5 밁 5 밁 S

```
US-10-029-345A-108_COPY_538_1443 (1-906) x AAB20325 (1-666)
                                                                                                                                                                                                                                                                                                                                                                                                         Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CC The present sequence is that of novel human protein phosphatase and CC (see AAF30479). Tissues that express PBHKP-4 (as a fraction of total CC tissues expressing pPHKP-4) include gastrointestinal (0.385), CC cardiovascular (0.154), nervous (0.154) and reproductive (0.154). CC cardiovascular (0.154), nervous (0.154) and reproductive (0.154). CC piseases or conditions associated with tissues expressing PPHKP-4 (as a confidence of total tissues expressing PPHKP-4) include cancer (0.692), CC encoded protein shows homology to mouse neuronal tyrosine threonine CC phosphatase 1. The invention provides human PPHKP-1 to -11 polypeptides (see AAB20322-32) and polynucleotides (see AAF30476-66). It also provides (expression vectors, host cells, antibodies, agonists and antagonists, as cC well as methods for diagnosing, treating or preventing disorders (2 disorders, immune system disorders, neurological disorders and cell CC proliferative disorders, including gastrointestinal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; Page 87-88; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel human protein phosphatase and kinase proteins for diagnosis, treatment and prevention of gastrointestinal, immune system, neurological and cell proliferative disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2001-244811/25.
N-PSDB; AAF30479.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Yue H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14-SEP-2000; 2000WO-US025515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200120004-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Modified-site
       181
                                                                                                                                                    121 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                       61
                                                                                                                                                                                                                            21
                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                      HisilebeudiualaileAsnileAsnCysSerLysLeuwetLysArgArgLeuGlnGin
                                                                                                                                                                                                 SerglythrdluLysvalLeuLeulleAspSerArgProphevalGluTyrAsnThrSer 40
                                                                                                                                                                                                                            AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INCYTE GENOMICS INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0154141P
                                                                                                                                                                                                                                                                                                                                                                                                         2.85e-169
1552.00
99.67%
99.34%
95.39%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note= "N-glycosylated"
643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bandman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "O-phosphorylated:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hillman JL,
                                                                                                                                                                                                                                                                                                                                                                                                       Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Baughn MR,
                                                                                                                                                                                                                                                                                                                                                                                    300
1
1
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Azimzai
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ۲,
                                                            80
                                                                                              240
                                                                                                                                 60
                                                                                                                                                                   180
                                                                                                                                                                                                                                                                       20
RESULT 12
ADA54744
ID ADA54
XX ADA54
XX ADA54
XX ADA54
XX EVACA
AC ADA54
XX CYCOSI
KW CYCOSI
KW Gene /
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX Inflat
XX 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                      19-MAR-2003
                                                                                                                                                                        EP1293569-A2
                                                                                                                                                                                                                                                                                                                                                 20-NOV-2003
                                                                                                                                                                                                                                                                                                                                                                                  ADA54744;
                                                                                                                                                                                                         sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlnThr
```

밁 Ś Б Ş 맑 Ş 문 Ś

```
14-SEP-2001; 2001JP-00328381.
24-JAN-2002; 2002US-0350435P.
(HELI-) HELIX RES INST.
(REAS-) RES ASSOC BIOTECHNOLOGY.
                                                                                  21-MAR-2002; 2002EP-00006586.
                                                                                                                                                                                    Cytostatic; Anti-inflammatory; Osteopathic; Neuroprotective; Nootropic; Gene Therapy; human; secretory protein; membrane proteins; cancer; inflammatory disease; osteoporosis; neurological disease.
                                                                                                                                                                                                                                                                                                                                         ADA54744 standard;
                                                                                                                                                                                                                                                         protein, SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ProTrpLeuAspLysSerValAspPheIleGiuLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IleProdluserHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ThrLeuvalProThrCyslleSerGlnProCysLeuProvalAlaAsnileGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                             906
                                                                                                                                                                                                                                                           IJ
                                                                                                                                                                                                                                                                                                                                         protein;
                                                                                                                                                                                                                                                        2312.
                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                        밁
                                                                      중 유
                                                                                                              ş
                                                                                                                                        밁
                                                                                                                                                     Ş
                                                                                                                                                                        덩
                                                                                                                                                                                            8
                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                   ર્
                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                          ð 유
                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-029-345A-108_COPY_538_1443 (1-906) x ADA54744 (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present invention relates to novel human secretory or membrane proteins (ADA54072-ADA55710) and their coding sequences (ADA5433-ADA54071). The coding sequences are useful in the gene therapy of diseases caused by abnormalities of the proteins, e.g. cancer, inflammatory diseases, osteoporosis or neurological disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 665 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New polynucleotides encoding full-length polypeptides, e.g. secretory and/or membrane proteins, useful for developing medicines for diseases which the gene is involved, or as target molecules for gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2003-395539/38.
N-PSDB; ADA53105.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Isogai T, Sugiyama T,
Yamamoto J, Isono Y,
Seki N, Yoshikawa T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 14; SEQ ID NO 2312; 205pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NO ...
                                                                                                                    421
                                                                                                                                                          361
                                                                                                                                                                               101
                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                        121
                                                                             481
                                                                                                 141
                                                                                                                                        121
                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                      81
                                                                                                                                                                                                                                                              13
                                                                                                                                                                                                                                                                                                     41
                                                                                                                                                                                                                                                                                                                                            21
                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                          GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                  CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                 ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                    GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                               AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                            AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                             1.83e-168
1545.00
99.34%
99.01%
94.96%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Otsuki T, Wakamatsu A, Sato H,
Hio Y, Otsuka K, Nagai K, Irie
Otsuka M, Nagahari K, Masuho Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                             299
299
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ₽,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ishii S;
R, Tamechika
 660
                                      600
                                                          180
                                                                             540
                                                                                                                     480
                                                                                                                                                           420
                                                                                                                                                                               120
                                                                                                                                                                                                  360
                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                     60
                  200
                                                                                                 160
                                                                                                                                        140
                                                                                                                                                                                                                      100
                                                                                                                                                                                                                                                             80
                                                                                                                                                                                                                                                                                                                                            40
                                                                                                                                                                                                                                                                                                                                                                                  20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ij
```

```
5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     맑
The present invention relates to a new polypeptide, DSP-16, having a amino acid sequence, given in the specification, or a variant having least 50 % identical residues, which retains the ability to dephosphorylate an activated mitogen-activated protein (MAP) kinase. invention can be used for identifying agents which modulate DSP-16 activity, for modulation of a proliferative response in a cell, survisional control of the proliferative response in a cell, survisional control of the proliferative response in a cell, survisional control of the proliferative response in a cell, survisional control of the proliferative response in a cell, survisional control of the proliferative response in a cell, survisional control of the proliferative response in a cell, survisional control of the proliferative response in a cell, survisional control of the proliferative response in a cell, survisional control of the proliferative response in a cell, survisional control of the proliferative response in a cell, survisional control of the proliferative response in a cell, survisional control of the proliferative response in a cell, survisional control of the proliferative response in a cell, survisional control of the proliferative response in a cell, survisional control of the proliferative response in a cell, survisional control of the proliferative response in a cell, survisional control of the proliferative response in a cell of the proliferative response in a cell, survisional control of the proliferative response in a cell, survisional control of the proliferative response in a cell of the proliferative response in a cell of the proliferative response in a cell of the proliferative response in a cell of the proliferative response in a cell of the proliferative response in a cell of the proliferative response in a cell of the proliferative response in a cell of the proliferative response in a cell of the proliferative response in a cell of the proliferative response in a cell of the proliferative response in a cell of the pro
                                                                                                                                                                                         New DSP-16 polypeptide, useful for identifying modulators activity, which can be used in the treatment of disorders Duchenne muscular dystrophy, or cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human; dual-specificity phosphatase-3; DSP-16; autoimmune disease; mitogen-activated protein kinase; MAP; Duchenne muscular dystrophy; cancer; graft-versus-host disease; allergy; metabolic disease; abnormal cell growth; abnormal cell proliferation; contact inhibition cell cycle abnormality; anchorage independent cell growth; apoptosis; intercellular adhesion; DSP-16 modulator; mutant; mutein.
                                                                                                                                                     Claim 46; Page; 87pp;
                                                                                                                                                                                                                                                                                   WPI; 2002-315802/35.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAU79161
                                                                                                                                                                                                                                                                                                                                 Luche RM,
                                                                                                                                                                                                                                                                                                                                                                                                                     26-SEP-2000; 2000US-0235487P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               04-APR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human dual-specificity phosphatase-3 (DSP-16) mutant protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 25-SEP-2001; 2001WO-US030124.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Misc-difference
                                                                                                                                                                                                                                                                                                                                                                              (CEPT-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GlaThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Wei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first
                                                                                                                                                                                                                                                                                                                                 ₽,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "Wild-type Asp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein;
                                                                                                                                                     English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    substituted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                       of its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  #
!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           720
```

```
В
                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                      맑
                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                           Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Si
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Alignment :
Pred. No.:
Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-029-345A-108_COPY_538_1443 (1-906) x AAU79161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Percent Similarity:
Best Local Similari
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of a cell, or differentiation of a cell. The cell displays contact inhibition of cell growth or anchorage independent growth and may display cell cycle. The identified modulators can be used to treat Duchenne diseases, altergies, metabolic diseases, abnormal cell growth, abnormal cell proliferation, and cell cycle abnormalities. The present amino acid mutant protein #1. Note: This sequence is not shown in the specification in figure 2 of the specification
                                                                                201
                                                                                                    601
                                                                                                                           181
                                                                                                                                                 541
                                                                                                                                                                       161
                                                                                                                                                                                             481
                                                                                                                                                                                                                   141
                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                         101
                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                     18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                            41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                    CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity:
                       ProTrpLeuAspLysSerValAspPhelleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                             CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                         ArgīleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuMet
                                                                                                                                                                        CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                   ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                          CTTGCAGGTGGGTTTGCTGAAGTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                      ThrLeuValProThrCysileSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                LeuAlaGlyGlyPheAlaGluPheSerArgCysbhebroGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                         GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTGTGTTCACCTG
                                                                                                                                                                                                                                                                                           AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                      CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                     GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                             CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SergiythrdiuLysvalLeuLeuIleAspSerArgProphevaidlutyrAsnthrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2.38e-168
1544.00
99.34%
99.01%
94.90%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         299
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       display or the
                                            720
                                                                    220
                                                                                                                                                          180
                                                                                                               200
                                                                                                                                                                                540
                                                                                                                                                                                                      160
                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                        100
                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                   80
                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          40
```

S 밁 Ş 밁 Ś В Ś 뮍 Ş 밁 Ş 뭐 5

```
RESULT 14
ARS2352
XX ARS2352
XX ARS2352
XX ARS22
XX ARS22
XX ARS22
XX ARS22
XX ARS22
XX ARS22
XX ARS22
XX ARS22
XX ARS22
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
XX ARS23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
The invention relates to a novel isolated nucleic acid comprising a polynucleotide having a nucleotide sequence selected from 40 polynucleotides fully defined in the specification. The polynucleotide of the invention has antiproliferative, hepatotropic, nephrotropic, antiproliferative, and cytostatic activity. The polynucleotide may have a use in gene therapy. A polynucleotide or ameliorating a medical condition, e.g. a proliferative, treating or also useful for treating e.g. liver disease, renal failure, immunological such as congenital heart defects and congestive heart failure, and such as congenital heart defects and congestive heart failure, and condition or susceptibility to a condition in a subject. The present
                                                                                                                                                                                                                                                                                                                                                                                                            Novel polynucleotides encoding human phosphatase polypeptides useful the prevention or treatment of e.g. proliferative and cardiovascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Jackson
Siemers
Krystek
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20-DEC-2000; 2000US-0256868P.
30-MAR-2001; 2001US-0280186P.
01-MAY-2001; 2001US-0287735P.
05-JUN-2001; 2001US-0295848P.
25-JUN-2001; 2001US-0300465P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (BRIM )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           antiproliferative; hepatotropic; nephrotropic; antiarthritic; antipporiatic; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart defect; congestive heart failure; cancer; human; mouse; yeast; rat; fruitfly.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20-DEC-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200257460-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Protein relating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABR52352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2002-599721/64.
DB; ACC60521.
                                                                                                                                                                                                                                                                                                                                                                5; Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             s, DG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BRISTOL-MYERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TieSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GlnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Feder J, Nelson T, Mintier G
Bol D, Schieven G, Finger J,
Mcatee P, Suchard S, Banas D;
                                                                                                                                                                                                                                                                                                                                                         5; 801pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2001WO-US050459.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SQUIBB
                                                                                                                                                                                                                                                                                                                                                           English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G, Ramanathan C, Lee L; Todderud CG, Bassolino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ď,
                                                                                                                                                                                                                                                                                                                                                                                                                                        'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  260
```

```
Best Local Si
Query Match:
DB:
                                                                                  음 성
                                                                                                                                 문
                                                                                                                                                  중 유
                                                                                                                                                                                             S
                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                      ક
                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                 ঠ
                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                          음 중
                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                δ
                                           밁
                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SXS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-029-345A-108_COPY_538_1443 (1-906) x ABR52352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ведчепсе
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
:
                                                                                                                                                                                                                                                                                            481
                                                                                                                                                        661
                                                                                                                                                                                                     601
                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                       161
                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                           101
                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                         241
                                                                                                             721
                                                                                                                                   221
                                                                                                                                                                               201
                                                                                                                                                                                                                                                                                                                  141
                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                      81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21
                                                                                                                                                                                                                                                                    CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                              CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                         GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerAsnThrCysProLysProAspPhe
                                                                                                                                                                                                                                     CAGCAGAATGGGATTGGTTATATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                     GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HisīleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAlaTyrGluLysLysIleLysAsn
           ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                          LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                             CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                   ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                           ileProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                          ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                   ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                               ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                        CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                        AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGGCCCATGAGATGGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      is used
                                                                                                                                                                                                                                                                                                                                                              .yGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2.38e-168
1544.00
99.34%
99.01%
94.90%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      299
0
                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                     900
                                            280
                                                                  840
                                                                                                                                   240
                                                                                                                                                                             220
                                                                                                                                                                                                    660
                                                                                                                                                                                                                          200
                                                                                                                                                                                                                                                600
                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                   160
                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                               140
                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                      100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20
```

CC AAM59166 to AAH99904 encode the human proteins given in AAM2525 to CC AAM55963. The proteins can have activities based on the tissues and cells CC they are expressed in, such as: antiinflammatory; antirheumatic; CC antiarthritic; immunosuppressive; antibacterial; endocrine; cardiant; CC central nervous system; virucide; anti-HIV; fungicide; antimutagen; CC cardiovascular; antianaemic; antiaggregant; haemostatic; vulnerary; CC antidicer; osteopathic; demacological; antiallergic; antiasthmatic; cardiabetic; cytostatic; neuroprotective; antidepressant; noutropic; CC antidiabetic; cytostatic; neuroprotective; antidepressant; noutropic; CC antidiabetic; cytostatic; neuroprotective; antidepressant; noutropic; CC antidiabetic; roteins and polynucleotides candoing them can be used in gene therapy, antisense therapy and vaccine production, The proteins and polynucleotides are useful for screening for CC agonists or antagonists of a grotein and for the treatment and diagnosis of disorders associated with the activity of a protein e.g. inflammation, CC rheumatoid arthritis, septic shock, pancreatitis, cardiac dysfunction, CC rections, autoimmunity, generic diseases, haematopoletic disorders, candenia, platelet disorders, thrombocytopaenia, wounds, burns, ulcers, CC osteoporosis, severe combined immunodeficiency, eczema, allergic

Claim 20;

Page 260; 1217pp;

English

```
ARMSULT 15
ARMSTA 14
ARMSTA 14
ARMSTA 14
ARMSTA 14
ARMSTA 14
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMSTA 16
ARMST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    :5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           anti-HIV, fungicide; antimutagen; cardiovascular; antianaemic; anaemia; antiaggregant; haemostatic; vulnerary; antiulcer; osteopathic; eczema; dermatological; antialgrafic; antiasthmatic; antidiabetic; cytostatic; neuroprotective; antidepressant; nootropic; antiparkinsonian; infection; immunostimulant; gene therapy; antisense therapy; vaccine; inflammation; antianaphylactic; rheumatoid arthritis; septic shock; pancreatitis; cardiac dysfunction; neuropathology; cardiac anaphylaxis; autoimmunity; genetic disease; haematopoietic disorder; platelet disorder; asthma; thrombocytopaenia; osteoporosis; severe combined immunodeficiency; allergic rhinitis; diabetes; multiple sclerosis; depression; haliaheimer's disease; Parkinson's disease; neurodegenerative disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      23-DEC-1999; 99US-00471275.
21-JAN-2000; 2000US-00488725.
25-APR-2000; 2000US-00552317.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Isolated human polynucleotides encoding polypeptides, useful for treatment and diagnosis of e.g. cancer, ulcers and HIV infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; AAH99685.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200153455-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            antiinflammatory; antirheumatic; antiarthritic; immunosuppressive;
antibacterial; endocrine; cardiant; central nervous system; virucide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (HYSE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22-DEC-2000; 2000WO-US035017.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human protein sequence SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAM25744;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAM25744 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2001-457603/49.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cancer; ulcer; HIV infection; human immunodeficiency virus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Drmanac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein; 672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NO:1259
```

```
망
                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                        US-10-029-345A-108_COPY_538_1443 (1-906) x AAM25744 (1-672)
                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                   Alignment Scores:
Pred. No.:
Score:
                                                                                                                                                                                                                                                                                                                                                                                                                          SSSSS
                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 672 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                               rhinitis, asthma, diabetes, cancer, multiple sclerosis, depression, Alzheimer's disease, Parkinson's disease, neurodegenerative and neurological disorders
841 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                           248
                                                       721
                                                                   228
                                                                              661
                                                                                           208
                                                                                                      601
                                                                                                                  188
                                                                                                                             541
                                                                                                                                  108
                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                88
                                                                                                                                                                                                                                                                89
           CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG 780
                                                                                                                                                                                                                                                                                                               28
                                                           61
                                                                                   ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                          CAGCAGAATGGGATTGGGTTATAGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                  μ
                                                                                                                                                                                                         GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                       2.39e-168
1544.00
99.34%
99.01%
94.90%
                                                                                                                                                                                                                                                                                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                     672
299
1
2
0
 900
             287
                        840
                                                                                                                      600
                                                            247
                                                                        720
                                                                                   227
                                                                                                660
                                                                                                           207
                                                                                                                                    187
                                                                                                                                              540
                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                         87
                                                                                                                                                                                                                                                                                                         47
                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                27
```

Ś よ Ś 밁 S 뭐 5 Ъ

S В Ş 뮍 Ś 뫄 Ś

S 밁 δ 밁 Ś 밁 S 뫄 Ś 문 Ş В

		_
Db	γQ	DЬ
308 G NEDY 300	T 906	

Search completed: June 21, 2004, 12:34:22 Job time: 51.4105 secs

```
Regult
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OM nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -MODEL=frame+_n2p.model -DEV=xlp
-Q=/cgn2 1/USFTO_spool_p/US10029945/runat_21062004_122818_4331/app_query.fasta_1.3278
-Q=/cgn2 1/USFTO_spool_p/US10029945/runat_21062004_122818_4331/app_query.fasta_1.3278
-DB=Published Applicationg AA -CPMT=fastan -SUFFTX=rapb -MIMMATCH=0.1
-LOOPCL=0 -LOOPEXT=0 -UNITS=bits -START=1 -END=-1 -MATRIX=blosum62
-TRANSS=human40.cdi -LIST=45 -DOCALIGN=200 -TTR_SCORE=pct -THR_MAX=100
-THR_MIN=0 -ALIGN=15 -MODELCOAL -CUTFMT=pto -NOME=ext -HEAPSIZE=500 -MINLEN=0
-MAXIEN=2000000000 -USER=US10029345_@CGN 1 1 21 @runat 21062004_122818_4331
-NCPU=6 -ICPU=3 -NO_MMAP -LARGEQUERY -NEG_SCORES=0 -MAIT -DSPBLOCK=100
-LONGLOG -DEV_TIMEDUT=120 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5
-FGAPOP=6 -FGĀPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Command line parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Total number
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Scoring table:
                                                                                                                                    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
        Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  •
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein search, using frame_plus_n2p model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Xgapop 10.0 , Ygapop 10.0 , Ygapop 6.0 , Fgapop 6.0 , Delop 6.0 , I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         June 21, 2004, 12:40:31 ; Search time 43.0982 Seconds
(without alignments) -
11869.448 Million cell updates/sec
Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-029-345A-108_COPY_538_1443
1627
                                                                                                                                                                                                                                                Published_Applications_AA:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1163542 seqs, 282313646 residues
                                                                                                                                                                                                                                : /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
: /cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
: /cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
: /cgn2_6/ptodata/1/pubpaa/US00_PUBCOMB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               atggcccatgagatgattgg.....agaagattaagaaccagact 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd
        DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Xgapext
Ygapext
Fgapext
Delext
        IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             7700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . . . . . .
        Description
```

```
| 1552 | 95.4 | 662 | 12 | US-10-072-012-258 | Sequence 258, Appli 1552 | 95.4 | 665 | 9 | US-09-816-494-2 | Sequence 2, Appli 1552 | 95.4 | 665 | 12 | US-10-072-012-680 | Sequence 2, Appli 1552 | 95.4 | 665 | 12 | US-10-072-012-680 | Sequence 2, Appli 1552 | 95.4 | 665 | 12 | US-10-18-506-14 | Sequence 2, Appli 1552 | 95.4 | 665 | 15 | US-10-33-357-7 | Sequence 240, Appli 1552 | 95.4 | 665 | 15 | US-10-48-93-240 | Sequence 270, Appli 1552 | 95.4 | 665 | 16 | US-10-68-93-247 | Sequence 271, Appli 1552 | 95.4 | 669 | 12 | US-10-072-012-703 | Sequence 271, Appli 1552 | 95.4 | 669 | 12 | US-10-072-012-703 | Sequence 271, Appli 1552 | 95.4 | 669 | 12 | US-10-072-012-703 | Sequence 271, Appli 1552 | 95.4 | 669 | 12 | US-10-072-012-703 | Sequence 271, Appli 1552 | 95.4 | 669 | 12 | US-10-072-012-703 | Sequence 271, Appli 1554 | 95.0 | 665 | 15 | US-10-072-012-703 | Sequence 271, Appli 154 | 95.0 | 665 | 15 | US-10-072-012-768 | Sequence 271, Appli 154 | 95.0 | 665 | 15 | US-10-072-012-683 | Sequence 271, Appli 154 | 95.0 | 665 | 12 | US-10-072-012-256 | Sequence 271, Appli 154 | 97.4 | 677 | 12 | US-10-072-012-268 | Sequence 271, Appli 155 | 97.4 | 677 | 12 | US-10-072-012-268 | Sequence 271, Appli 154 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97.5 | 97
```

1444444 144477 144477 144474 144474 144474 144474 14474 14474 14474 14474 14474 14474 14474 14474 14474 14474 14474 14474 14

ALIGNMENTS

```
RESULT 1
US-10-072-012-258
                                                                                                                                                                                                                                                                      GENERAL
                                                                                                                                                                                                                                                                                     Sequence 258, Application US/10072012 Publication No. US20040033493A1
                                                      APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                       APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                        APPLICANT: Tchernev, Velizar APPLICANT: Spytek, Kimberly
                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                      INFORMATION:
                         Padigaru, Muralidhara
Anderson, David W.
Rastelli, Luca
Miller, Charles E.
Gerlach, Valerie
Taupier Jr, Raymond J.
Gusev, Vladimir Y.
Colman, Steven D.
Wolenc, Adam R.
Pena, Carol E. A
Furtak, Katarzyna
Grosse, William M
                                                                                                                                                                    Li, Li
Gangolli, Esha
                                                                                                                                                                                                Patturajan, Meera
Shimkets, Richard
                                                                                                                                                                                                                              Zerhusen, Bryan
                                                                                      <u>.</u>
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-029-345A-108_COPY_538_1443 (1-906) x US-10-072-012-258 (1-662)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Lepley, Denise M.
APPLICANT: Rieger, Daniel K.
APPLICANT: Rieger, Daniel K.
APPLICANT: Rieger, Daniel K.
APPLICANT: Rieger, Daniel K.
APPLICANT: Rieger, Daniel K.
APPLICANT: Rieger, Daniel K.
APPLICANT: Rieger, Daniel K.
FILE REFERENCE: 21402-258
CURRENT FILING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: 60/265,102
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,319
PRIOR FILING DATE: 2001-01-31
PRIOR FILING DATE: 2001-01-31
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,395
PRIOR FILING DATE: 2001-02-02
PRIOR APPLICATION NUMBER: 60/266,406
PRIOR FILING DATE: 2001-02-02
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alignment Scores: Pred. No.: Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; ORGANISM: Homo sapiens
US-10-072-012-258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 258
LENGTH: 662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Remaining Prior Application data removed NUMBER OF SEQ ID NOS: 1391
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 66
TYPE: PRT
                                          361
                                                                                                     301
                                                                                                                                                                 241
                                                                                                                                   81
                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                               61
                                                                                                                                                                                                                                                          41
                                                                                                                                                                                                                                                                                                                       21
                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                    Н
CTTGCAGGTGGGTTTGCTGAGTTCTCTCGGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                               GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                          Alsobrook II, John P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6.02e-152
1552.00
99.67%
99.34%
95.39%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          See File Wrapper or PALM
                    420
                                                  120
                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                    180
                                                                                                                                                                          80
                                                                                                                                                                                                                                      60
                                                                                                                                                                                                                                                                                                    40
                                                                                                                                                                                                                                                                                                                                                               20
               밁
                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  당
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
```

В Ś B Ş В Ş В Ś 밁 Ś

```
Sequence 2, Application US/09816494

Patent No. US20020034807A1

GENERAL INFORMATION:

APPLICANT: Meyer's, Rachel A.

TITLE OF INVENTION: 38692 AND 21117, NOVEL DUAL SPECIFICITY

TITLE OF INVENTION: PHOSPHATASE MOLECULES AND USES THEREFOR

CURRENT APPLICATION NUMBER: US/09/816,494

CURRENT FILING DATE: 2001-03-23

PRIOR APPLICATION NUMBER: US 60/191,858

INVEST OF SEQ ID NOS: 10

SOPTWARE: FastSEQ for Windows Version 4.0

LENGTH: 665

TYDE: DET
                                    US-10-029-345A-108_COPY_538_1443 (1-906) x US-09-816-494-2 (1-665)
                                                                           Query Match:
                                                                                 Percent Similarity:
Best Local Similarity:
                                                                                                                                       ; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-816-494-2
                                                                                                               Pred. No.:
                                                                                                                      Alignment Scores:
                                                                                                                                                                                                                                                                                                          RESULT 2
US-09-816-494-2
901 CAGACT
||||||
301 GlnThr
                                                                                                                                                                                                                                                                                                                                                                          281
                                                                                                                                                                                                                                                                                                                                                                                           841
                                                                                                                                                                                                                                                                                                                                                                                                            261
                                                                                                                                                                                                                                                                                                                                                                                                                              781
                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                             AAGAGGAIGGACATGICTTTAGAIGAAGCTTACAGAITTIGTGAAAGAAAAAAAGACCTACT
                                                                                                                                                                                                                                                                                                                                                                                                 ATCCCCGAGTCTCATTTCCTGCGTGTGTGACTGTGAAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        \texttt{LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer}
                                                                                                                                                                                                                                                                                                                                                     906
                                                                                                                                                                                                                                                                                                                                    302
                                                               6.03e-152
1552.00
99.67%
99.34%
95.39%
                                                           Conservative:
Mismatches:
Indels:
Gaps:
                                                                                               Length:
Matches:
                                                          665
300
1
0
                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                   280
                                                                                                                                                                                                                                                                                                                                                                                                                                     260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       160
```

```
RESULT 3

US-09-964-277-2

¡ Sequence 2, Application US/09964277

¡ Patent No. US20020137170A1

¡ GENERAL INFORMATION:

¡ APPLICANT: Luche, Ralf M.

¡ APPLICANT: Wei, Bo

¡ TITLE OF INVENTION: DSP-16 DUAL-SPECIFICITY PHO

¡ PILE REFERENCE: 200125.434

¡ CURRENT APPLICATION NUMBER: US/09/964,277

¡ CURRENT FILING DATE: 2001-09-25

¡ NUMBER OF SEQ ID NOS: 22

¡ SOFTWARE: FASTSEQ for Windows Version 4.0
                                                                                                                                                  음 성 음
                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                         141
                                                                                  301
                                                                                                                                                                              221
                                                                                                                                                                                          661
                                                                                                                                                                                                     201
                                                                                                                                                                                                                109
                                                                                                                                                                                                                                                   161
                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                       101
                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                              81
                                                                                                                                                                                                                                                                                                                                                                                             41
                                                                                                                                                                                                                                                                                                                                                                                                                    21
                                                                                  GlaThr
                                                                                                                                                      CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                           GACTGTTTTCTCACCTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                             CAGACT
                                                                                                                                                                                                    ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                               906
                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                          160
                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                              100
                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                      80
                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                    40
                                                                                                                                                       260
                                                                                                                                                                                                     220
                                                                                                                                                                                                                           200
                                                                                                                                                                                                                                                                                                                       120
          뫄
                      δ
                                   망
                                            Ś
                                                       g
                                                                  δ
                                                                             유정
                                                                                                       닭
                                                                                                                δ
                                                                                                                               뭐
                                                                                                                                       5
                                                                                                                                                      유 성 유
                                                                                                                                                                                     ð
                                                                                                                                                                                                    밁
                                                                                                                                                                                                             δ
                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                 문. 왕
                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                          Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                Alignment Scores:
Pred. No.:
Score:
                                                                                                                                                                                                                                                                                                                                            US-10-029-345A-108_COPY_538_1443 (1-906) x US-09-964-277-2
                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 2
LENGTH: 665
TYPE: PRT
ORGANISM: Homo sapiens
                                                                      661
                                                                                                         181
                                                                                                                                          481
                                                                                                                                                       141
                                                                                                                                                                  421
                                                                                                                                                                                         361
              261
                         781
                                               721
                                                           221
                                                                                  201
                                                                                             601
                                                                                                                                161
                                                                                                                                                                              121
                                                                                                                                                                                                     101
                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                           81
                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                         41
                                                                                                                                                                                                                                                                                                 21
                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                    ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
             CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                          IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                        ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                    CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
   ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                          6.03e-152
1552.00
99.67%
99.34%
95.39%
                                                                                                                                                                                                                                                                                                                                                         Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                         300
1
0
0
                                                                                                                                                                                                                                                                                                                                               (1-665)
    900
                         840
                                                 780
                                                                       720
                                                                                  220
                                                                                             660
                                                                                                         200
                                                                                                                     600
                                                                                                                                180
                                                                                                                                                        160
                                                                                                                                                                   480
                                                                                                                                                                                          420
                                                                                                                                                                                                     120
                                                                                                                                                                                                                             100
                                                                                                                                                                                                                                                   80
                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                 40
                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                        20
```

5 B 5

중 유

유성

음 성

ð

문 5 밁 δ В

ð 유

음 성 음

5

ð

ર્શ

```
Percent Similarity:
Best Local Similarity:
                                                                                   Alignment Scores: Pred. No.:
                                                                                                               Remaining Prior Application data removed - NUMBER OF SEQ ID NOS: 1391
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 680
LENGTH: 665
TYPE: PRT
ORGANISM: Homo sapiens
US-10-072-012-680
                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: 60/266,406
PRIOR FILING DATE: 2001-02-02
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/267,057
PRIOR APPLICATION NUMBER: 60/267,057
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR FILING DATE: 2001-02-08
                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: (Taupier Jr., Raymond J.
APPLICANT: Colsev, Vladimir Y.
APPLICANT: Colsev, Vladimir Y.
APPLICANT: Wolenc, Adam R.
APPLICANT: Pena, Carol E A
APPLICANT: Pena, Carol E A
APPLICANT: Pena, Carol E A
APPLICANT: Pena, Carol E A
APPLICANT: Alsobrook II, John P.
APPLICANT: Alsobrook II, John P.
APPLICANT: Lepley, Denise M.
APPLICANT: Burgess, Catherine E.
TITLE OF INVENTION: Proteins and Nucleic Acids Enc
CURRENT APPLICATION NUMBER: US/10/072/012
FILE REFERENCE: 21402-258
CURRENT APPLICATION NUMBER: 60/265,102
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,519
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,395
PRIOR PRILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,395
PRIOR APPLICATION NUMBER: 60/265,395
PRIOR APPLICATION NUMBER: 60/265,395
PRIOR APPLICATION NUMBER: 60/265,395
PRIOR APPLICATION NUMBER: 60/265,395
PRIOR APPLICATION NUMBER: 60/265,395
PRIOR APPLICATION NUMBER: 60/265,395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 680, Application US/10072012
Publication No. US/20040033493A1

APPLICANT TChernev, Velizar
APPLICANT: Spytek, Kimberly
APPLICANT: Serhusen, Bryan
APPLICANT: Pathurajan, Meera
APPLICANT: Shimkets, Richard
APPLICANT: Li, Li
APPLICANT: Li, Li
APPLICANT: Applicant
APPLICANT: Applicant
APPLICANT: Applicant
APPLICANT: Applicant
APPLICANT: Applicant
APPLICANT: Applicant
APPLICANT: Applicant
APPLICANT: Rastelli, Luca
APPLICANT: Rastelli, Luca
APPLICANT: Gerlach, Valerie
APPLICANT: Garlach, Valerie
APPLICANT: Taupier Jr, Raymond J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 4
US-10-072-012-680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Padigaru, Muralidhara
Anderson, David W.
Rastelli, Luca
Miller, Charles E
Gerlach, Valerie
Taupier Jr, Raymond J.
Gusev, Vladimir Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ||||||
| GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6.03e-152
1552.00
99.67%
99.34%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            906
                             Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                      See File Wrapper or PALM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Encoding
                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
RESULT 5
US-10-168-506-14
VS-10-168-506-14
; Sequence 14, Application US/10168506
; Publication No. US20040053229A1
                                                                                                            Ś
                                                                                                                                         뫄
                                                                                                                                                                Ş
                                                                                                                                                                                                В
                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-108_COPY_538_1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match:
DB:
                                                                            301 GinThr 302
                                                                                                            901
                                                                                                                    261
                                                                                                                                                                                                                        781
                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                         221
                                                                                                                                                                                                                                                                                                                                                               201
                                                                                                                                                                                                                                                                                                                                                                                                              541 CAGCAGAATGGGATTGGGTAATGGTTAAATGGCAGGTATACCTGTCCAAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                               181 GlndinasndiyilediyTyrvalLeuasnalaserasnThrCysbroLysbroaspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTTGGCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 LeudlagiydiyPhedladluPheSerdrgCysPheProGlyLeuCysGluGlyLysSer 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                      CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        41 HistleLeudluAlaileAsnileAsnCysSerLysLeuwetLysArgArgLeudlnGin
                                                                                                                                                                                                                                                                                  ACTOTAGTOCCTACCTGCATITCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               wetAlaHisGluMetlleGlyThrGlnileValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (1-906) x US-10-072-012-680 (1-665)
                                                                                                                  lnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              00
                                                                                                                  300
                                                                                                                                                                                                                                                                                    . 240
                                                                                                                                            900
                                                                                                                                                                                                   840
                                                                                                                                                                         280
                                                                                                                                                                                                                                260
                                                                                                                                                                                                                                                                                                                                                                      660
                                                                                                                                                                                                                                                                                                               720
                                                                                                                                                                                                                                                                                                                                           220
                                                                                                                                                                                                                                                                                                                                                                                                200
                                                                                                                                                                                                                                                                                                                                                                                                                             600
                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20
```

```
APPLICANT: HOLOMAN, GREGORY D.
APPLICANT: MARTINEZ, RICARDO
APPLICANT: MAYTE, DAVID
APPLICANT: MAYNE, DAVID
APPLICANT: WHYTE, DAVID
APPLICANT: SUDARSANAM, SUCHA
APPLICANT: SUDARSANAM, SUCHA
APPLICANT: HILL, RON
APPLICANT: HILL, RON
APPLICANT: FLANAGAN, PETER
FILLE OF INVENTION: MAMMALIAN PROTEIN PHOSPHATASES
FILE REFERENCE: 038602/1351
CURRENT APPLICATION NUMBER: US/10/168,506
CURRENT PILING DATE: 2002-06-21
PRIOR APPLICATION NUMBER: PCT/US00/34736
PRIOR APPLICATION NUMBER: PCT/US00/34736
PRIOR FILING DATE: 2000-12-21
NUMBER OF SEQ ID NOS: 76
SOFTWARE: PATENTIN VEY: 2.1
SEQ ID NO 14
LENGTH: 665
TYPE: PRT
ORGANISM: Homo Bapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-029-345A-108_COPY_538_1443 (1-906) x US-10-168-506-14 (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-168-506-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                481
                                                                                                                                                                                        141
                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                            101
                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                              161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                      81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                        GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180
                                                       CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                        AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                       SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGGCCCATGAGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                  GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MetAlaHisGluMetileGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                   GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerAsnThrCysProLysProAspPhe
                                                                                                                                                                                                                                                               LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                   CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                CysSerGlnLysValValVylNapGlnSerSerGlnAspValAlaSerLeuSerSer 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6.03e-152
1552.00
99.67%
99.34%
95.39%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
1
0
 660
                                                                                                              180
                                                                                                                                                                                                                                                                                                       : 420
                                                                       600
                                                                                                                                                                                                                                                                 140
                                                                                                                                                                                                                                                                                                                                            120
                                     200
                                                                                                                                                540
                                                                                                                                                                                        160
                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                                     CURRENT APPLICATION UNMBER: US/10/343,357
CURRENT FILING DATE: 2003-01-28
PRIOR APPLICATION UNMBER: PCT/US01/23716
PRIOR APPLICATION UNMBER: US 60/221,679
PRIOR APPLICATION NUMBER: US 60/223,272
PRIOR PILING DATE: 2000-09-03
PRIOR PILING DATE: 2000-08-03
PRIOR PILING DATE: 2000-08-03
PRIOR PILING DATE: 2000-08-03
PRIOR APPLICATION NUMBER: US 60/224,309
PRIOR FILING DATE: 2000-08-10
PRIOR PILING DATE: 2000-08-10
PRIOR PILING DATE: 2000-08-16
PRIOR PILING DATE: 2000-08-16
PRIOR PILING DATE: 2000-08-16
PRIOR PILING DATE: 2000-08-16
PRIOR APPLICATION NUMBER: US 60/229,254
PRIOR PILING DATE: 2000-08-30
PRIOR APPLICATION NUMBER: US 60/231,366
PRIOR APPLICATION NUMBER: US 60/231,366
PRIOR APPLICATION NUMBER: US 60/231,366
PRIOR PILING DATE: 2000-09-08
NUMBER OF SEQ ID NOS: 20
SOFTWARE: PERL PROGRAM
SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: INCYTE GENOMICS, INC.; TANG, Y.Tom
APPLICANT: ELLIOTT, Vicki S.; RAMKUWAR, Jayalaxmi
APPLICANT: YAO, Monique G.; BURFORD, Neil
APPLICANT: WANG, Yumei E.; STEWART, Elizabeth A.
APPLICANT: GANDHI, Ameena R.; ARVIZU, Chandra S.
APPLICANT: LEB, Ernestine A.; HAFALIA, April J.A.
APPLICANT: LU, Dyung Aina M.; TRIBOULEY, Catherine M.
APPLICANT: GRIFFIN, Jennifer A.; BAUGHN, Mariah R.
APPLICANT: WUE, Henry; WARREN, Bridget A.
APPLICANT: NGUYEN, Danniel B.; CHAWLA, Narinder K.
APPLICANT: REARNEY, Liam
TITLE OF INVENTION: PROTEIN PHOSPHATASES
FILE REFERENCE: PI-0173 PCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 6
US-10-343-357-7
Percent Similarity:
Best Local Similarity:
                                                                                                          ; NAME/KEY: misc feature
; OTHER INFORMATION: Incyte ID No. US20040058341A1 7480570CD1
US-10-343-357-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                   Score:
                                                       Pred. No.:
                                                                       Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 7, Application US/10343357 Publication No. US20040058341A1 GENERAL INFORMATION:
                                                                                                                                                                                  LENGTH: 665
TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCCTATCGCCTACATCATC
6.03e-152
1552.00
99.67%
99.34%
Length:
Matches:
Conservative:
Mismatches:
 665
300
1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3
```

ð 밁 S 밁 ક 밁

5 밁 S 밁 S

5 밁 S 밁 S

밁

á

밁

DB:

Query Match: DB:

95.39**%** 12

```
US-10-029-345A-108_COPY_538_1443 (1-906) x US-10-343-357-7 (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 141 ThrLeuvalprothrcysileSerGinProCysLeuprovalAlaAsnileGlyProthr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240
                                                                                                                                                                                                                          ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                         61 AspLysvalheuileThrGluLeuileGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                      īleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysTleLysAsn
                                                                                                                                                                                                                                                                                                                                                Application US/10377072
                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGTGGTTGGACAAATCAGTAGATTTCAGTTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ProtrpueuAspLysservalAspPheileGluLysAlaLysAlaSerAsnGlyCysval
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GinGinAsnGlyIleGlyTyrValLeuAsnAlaSerAsnThrCysProLysBroAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ArgIleLeuproAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuMet 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LeuAladiydiyPheAladiuPheSerArgCysPheProdiyLeuCysGludlyLysSer 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HisileLeuGiuAlaileAsnIleAsnCysSerLysLeuMetLysArgArgLeuGinGin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CACATTITGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MetAlaHisGluMetileGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                00
                                                                                                                                                                                                        300
                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                                    260
                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                             720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20
                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Chun, Miyoung
APPLICANT: The Third of Inventions: Novel 25869, 25934, 26335, 50365, 211
TITLE OF INVENTION: NOVEL 25869, 25934, 26335, 50365, 211
TITLE OF INVENTION: AND USES THEREFOR
FILE REFERENCE: MPI03-0180MNIM
CURRENT APPLICATION NUMBER: US/10/377,072
PRIOR APPLICATION NUMBER: US 9/895,860
PRIOR APPLICATION NUMBER: US 9/895,860
PRIOR APPLICATION NUMBER: US 9/895,860
PRIOR FILING DATE: 2001-06-29
PRIOR FILING DATE: 2000-06-29
PRIOR FILING DATE: 2000-01-28
PRIOR APPLICATION NUMBER: US 9/723,806
PRIOR APPLICATION NUMBER: US 9/723,806
PRIOR APPLICATION NUMBER: US 9/843,297
PRIOR APPLICATION NUMBER: US 60/187,455
PRIOR APPLICATION NUMBER: US 60/187,455
PRIOR APPLICATION NUMBER: US 9/843,297
PRIOR APPLICATION NUMBER: US 9/843,297
PRIOR APPLICATION NUMBER: US 60/199,801
PRIOR APPLICATION NUMBER: US 60/199,801
PRIOR APPLICATION NUMBER: US 60/199,801
PRIOR APPLICATION NUMBER: US 9/861,801
PRIOR APPLICATION NUMBER: US 9/861,801
PRIOR APPLICATION NUMBER: US 9/861,801
PRIOR APPLICATION NUMBER: US 9/861,801
PRIOR APPLICATION NUMBER: US 9/861,801
PRIOR APPLICATION NUMBER: US 9/861,801
PRIOR APPLICATION NUMBER: US 9/861,801
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR APPLICATION NUMBER: US 9/861,494
PRIOR 
                                                                                       Вb
                                                                                                                      Ś
                                                                                                                                                        В
                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                 뭐
                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                      US-10-029-345A-108_COPY_538_1443 (1-906) x US-10-377-072-26
                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Remaining Prior Application data removed
NUMBER OF SEQ ID NOS: 114
SSCFTWARE: FastSEQ for Windows Version 4.0
ENGTH: 665
TYPE: PRT
ORGANISM: Homo Sapiens
US-10-377-072-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Percent Similarity:
Best Local Similari
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Millennium Pharmaceuticals
APPLICANT: Millennium Pharmaceuticals
APPLICANT: Curtis, Rory A.J.
APPLICANT: Logan, Thomas Joseph
APPLICANT: Glucksmann, Maria A.
APPLICANT: Meyers, Rachel E.
APPLICANT: Williamson, Mark J.
APPLICANT: Rudolph-Owen, Laura A.
                                               241
                                                                                                                                                121 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                  181
                                                                                 61
                                                                                                                            41 HistieLeuGluAlaileAsnileAsnCysSerLysLeuMetLysArgArgLeuGinGin
                                                                                                                                                                                                                             21
                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity:
                                                                                                                                                                                                                                                                                           1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
6.03e~152
1552.00
99.67%
99.34%
95.39%
                                                                                                                                                                                                                                                                                                                                                                                                              Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            See File Wrapper or PALM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16839, 49937, 49931
                                                                                                                                                                                                                                                                                                                                                      (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AND 49933 MOLECULES
                                                         80
                                                                                                                              60
                                                                                                                                                                                                    40
                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                                                                               60
```

161 481 421 121 361 101 301

241

81

121

21

61

41

RESULT 7
US-10-377-072-26
Sequence 26, Appl
Publication No. (

Ś B Ś В Ş ₽ Ś 밁 Ş 밁 Ś В Ś 밁 5 B S В Ş В δ 뭐 Ş 뫄 S DЪ Ś Дb Ś 멍 5

901 CAGACT 906

281 841 261 781 241 721 221 661 201 601 181

301

GlnThr 302

```
Sequence 2, Application US/10257026

Publication No. US20040086859A1

GENERAL INFORMATION:

APPLICANT: Merck Patent GmbH

TITLE OF INVENTION: New dual specificity phosphatase

FILE REFERENCE: DUSP10KDWS

CURRENT APPLICATION NUMBER: US/10/257,026

CURRENT FILING DATE: 2003-11-07

NUMBER OF SEQ ID NOS: 3

SOFTMARE: Patentin Ver. 2.1

SEQ ID NO 2

LENGTH: 665

TYPE: PRT

ORGANISM: Homo sapiens
              Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                            Pred. |
Score:
                                                                                                                                                                             RESULT 8
US-10-257-026-2
                                                                       US-10-257-026-2
US-10-029-345A-108_COPY_538_1443 (1-906) x US-10-257-026-2
                                                          Alignment
                                                  No.:
                                                         Scores
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                 901
                                                                                                                                                                                                                                281
                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                            261
                                                                                                                                                                                                                                                                          781
                                                                                                                                                                                                                                                                                                                   221
                                                                                                                                                                                                                                                                                                                                                201
                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                       161
                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                   141
                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18
                                                                                                                                                                                                   GlnThr
                                                                                                                                                                                                                               CAGACT
                                                                                                                                                                                                                                                                                      CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                              IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                      ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                      {\tt CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer}
                                                                                                                                                                                                                  906
              6.03e-152
1552.00
99.67%
99.34%
95.39%
                     Length:
Matches:
Conservative:
Mismatches:
Indels:
              300
1
1
0
 (1-665)
                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                         840
                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                            280
                                                                                                                                                                                                                                                                                       260
                                                                                                                                                                                                                                                                                                     780
                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                               220
                                                                                                                                                                                                                                                                                                                                                             660
                                                                                                                                                                                                                                                                                                                                                                          200
                                                                                                                                                                                                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                                   160
                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                               140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100
                                         RESULT 9
US-10-648-593-240
                                                                         5
                                                                                         음 성 음
                                                                                                                                 5
                                                                                                                                             ם
                                                                                                                                                           δ
                                                                                                                                                                             밁
                                                                                                                                                                                        Ş
                                                                                                                                                                                                          밁
                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                             뭐
                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 멍
                                                                                                                                                                                                                                                                                                                                                                                                             吊
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
Sequence 240, Application US/10648593
Publication No. US2004010613ZA1
GENERAL INFORMATION:
APPLICANT: Bristcol-Myers Squibb Company
TITLE OF INVENTION: IDENTIFICATION OF GENES FOR PREDICTING
TITLE OF INVENTION: INTERACT WITH AND/OR MODULATE PROTEIN
                                                                301
                                                                             901
                                                                                          281
                                                                                                         841
                                                                                                                                                                                                                        109
                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                      261
                                                                                                                                    781
                                                                                                                                                  241
                                                                                                                                                               721
                                                                                                                                                                               221
                                                                                                                                                                                            661
                                                                                                                                                                                                          201
                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                  161
                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                              141
                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                     101
                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                 81
                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                         41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ш
                                                              CAGACT
                                                                                          ATCCCCGAGTCTCATTTCCTGCGTGTGTGTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                 LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                             ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                     CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                              906
                                                                302
  ACTIVITY OF COMPOUNDS THAT TYROSINE KINASES AND/OR
                                                                                            300
                                                                                                         900
                                                                                                                       280
                                                                                                                                                   260
                                                                                                                                                                 780
                                                                                                                                                                               240
                                                                                                                                                                                             720
                                                                                                                                                                                                           220
                                                                                                                                                                                                                         660
                                                                                                                                                                                                                                       200
                                                                                                                                                                                                                                                    600
                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                               160
                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                          140
                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                  100
                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                               80
                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
```

S

음 성 음 성

밁 S B 5 밁 ঠ 밁 ર્ 밁

ঠ 밁 र् 밁 ঠ 밁 δ 용

```
FILE OF INVENTION: PROTEIN TYROSINE KINASE
FILE REFERENCE: D0273 NP
CURRENT APPLICATION NUMBER: US/10/648,593
CURRENT FILING DATE: 2003-08-26
PRIOR APPLICATION NUMBER: 60/406,385
PRIOR FILING DATE: 2002-08-27
NUMBER OF SEG ID NOS: 557
SOFTWARE: Patentin version 3.2
LENGTH: 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-029-345A-108_COPY_538_1443 (1-906) x US-10-648-593-240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 665
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-648-593-240
                       CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                            CCGTGGTTGGACAAATCAGTAGATTTCAGTTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                            ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                      ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                            IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                          CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT 600
                                                                                                                                                                                    ArgīleLeuProAsnLeuTyrLeuGlyCysĠinArgAspvalLeuAsnLysĠluLeuMet 180
                                                                                                                                                                                                   CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                     ThrLeuvalProThrCyslleSerGlnProCysLeuProvalAlaAsnileGlyProThr
                                                                                                                                                                                                                                                ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsmSerValHisLeu
                                                                                                                                                                                                                                                                                                                                            GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTGTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                              CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                           6.03e-152
1552.00
99.67%
99.34%
95.39%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROTEIN TYROSINE KINASE PATHWAYS IN BREAST CELLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              665
300
1
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (1-665)
                         780
                                                                     720
                                                                                                                   660
                                                                                                                                           200
                                                                                                                                                                                                               540
                                                                                                                                                                                                                                      160
                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                   140
                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                              100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 10
US-10-648-593-247

Sequence 247, Application US/10648593

Publication No. US20040106132A1

GENERAL INFORMATION:
GENERAL INFORMATION:
FILLS OF INVENTION: IDENTIFICATION OF GENES FOR PREDICTING ACTIVITY OF COMPOUNDS THAT TITLE OF INVENTION: IDENTIFICATION OF FOREST OF TYROSINE KINASES AND/OR MODULATE PROTEIN TYROSINE KINASES AND/OR FILLS OF INVENTION: PROTEIN TYROSINE KINASE PATHWAYS IN BREAST CELLS

CURRENT FILING DATE: 2023 NP
CURRENT RILING DATE: 2003-08-26

PRIOR APPLICATION NUMBER: US/10/648,593

PRIOR APPLICATION NUMBER: 60/406,385

PRIOR FILING DATE: 2002-08-27

NUMBER OF SEQ ID NOS: 557

SOSTWARE: Patentin version 3.2

LENGTH: 665

TYPE: PRT

ORGANISM: Homo sapiens
                                                    밁
                                                                       Ş
                                                                                                 B
                                                                                                                       Ş
                                                                                                                                                밁
                                                                                                                                                                 Ş
                                                                                                                                                                                              밁
                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                       US-10-029-345A-108_COPY_538_1443 (1-906) x US-10-648-593-247 (1-665)
                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                        Alignment Scores:
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                       No.:
                             361
                                                    101
                                                                          301
                                                                                                                       241
                                                                                                                                                                     181
                                                                                                81
                                                                                                                                                                                                                   121
                                                                                                                                              61
                                                                                                                                                                                            41
                                                                                                                                                                                                                                          21
CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                  GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             261
                                                                                                                              AspLysvalieuilethroiuLeuileGlnHisSerAlaLysHisLysvalAspIleAsp
                                                                                                                                              GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                        CACATTITGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180
                                                                                                                                                                                                                         HisileLeudiuAlaileAsnIleAsnCysSerLysLeumetLysArgArgLeudlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                      MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                       ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             906
                                                                                                                                                                                                                                                                                                                                                       6.03e-152
1552.00
99.67%
99.34%
95.34%
16
                                                                                                                                                                                                                                                                                                                                                                          Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                 Indels:
```

뭐 á 뫄 á

21 61

241

81

181

41

13

Ś B Ş 밁 Ś 밁 Ş 밁 Š 밁 Ş ₽ Ś 뮍 Ş 뫄 S B Ś

420 120 360 100

80 240 60

40

20 60

δ 망 ð

В

```
Sequence 679, Application US/10
Publication No. US20040033493A1
GENERAL INFORMATION:
APPLICANT: Tchernev, Velizar
APPLICANT: Spytek, Kimberly
APPLICANT: Serhusen, Bryan
APPLICANT: Shimkets, Richard
APPLICANT: Li, Li
APPLICANT: Gangoli, Esha
APPLICANT: Padigaru, Muralidh
APPLICANT: Anderson, David W.
APPLICANT: Rastelli, Luca
APPLICANT: Miller, Charles E.
APPLICANT: Gerlach, Valerion
APPLICANT: Gerlach, Valerion
APPLICANT: Gusev, Vladimir Y.
APPLICANT: Gusev, Vladimir Y.
APPLICANT: Colman, Steven D.
APPLICANT: Colman, Steven D.
APPLICANT: Colman, Steven D.
APPLICANT: Furtak, Katarzyna
APPLICANT: Alsobrook II, John
APPLICANT: Alsobrook II, John
APPLICANT: Alsobrook II, John
APPLICANT: Alsobrook II, John
APPLICANT: Richer, Denise M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 11
US-10-072-012-679
APPLICANT: Lepley, Denise M.
APPLICANT: Rieger, Daniel K.
APPLICANT: Burgess, Catherine E.
TITLE OF INVENTION: Proteins and Nucleic Acids Enverte E.
PILE REFERENCE: 21402-258
CURRENT APPLICATION UMBER: US/10/072,012
CURRENT FILING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: 60/265,102
PRIOR APPLICATION NUMBER: 60/265,514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             901 CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Colman, Steven D.
Wolenc, Adam R.
Pena, Carol E. A
Furtak, Katarzyna
Grosse, William M.
Alsobrook II, John P.
                                                                                                                                                                                                                                                                   Anderson, David W.
Rastelli, Luca
Miller, Charles E.
Gerlach, Valerie
Taupier Jr, Raymond J.
Gusev, Vladimir Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerAsnThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACTOTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                    Shimkets, Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Application US/10072012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US20040033493A1
                                                                                                                                                                                                                                                                                                                                                       Muralidhara
David W.
                                                                                                                                                                                                                                                                                                                                                                                                                                       Meera
                                                                                                     Encoding
                                                                                                      Same
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    200
                                  밁
                                                                Ś
                                                                                                     밁
                                                                                                                               S
                                                                                                                                                                   밁
                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-029-345A-108_COPY_538_1443 (1-906) x US-10-072-012-679 (1-690)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-072-012-679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR FILING DATE: 2001-02-05
PRIOR APPLICATION NUMBER: 60/267,057
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR FILING DATE: 2001-02-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Remaining Prior Application data removed - See File Wrapper or PALM.
NUMBER OF SEO ID NOS: 1391
SOFTWARE: PatentIn Ver. 2.1
SEO ID NO 679
LENGTH: 690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: 60/266,406 FILING DATE: 2001-02-02 APPLICATION NUMBER: 60/266,767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: 2001-01-31
APPLICATION NUMBER: 60/265,395
FILING DATE: 2001-01-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: 60/265,412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 60/265,517
     541
                                  186
                                                                    481
                                                                                                      166
                                                                                                                                    421
                                                                                                                                                                     146
                                                                                                                                                                                                      361
                                                                                                                                                                                                                                        126
                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                        106
                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                       86
                                                                                                                                                                                                                                                                                                                                                                                                                                         66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                       GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                       HisleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                    CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                           GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                      CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                    ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuMet
                                                                                                     ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                    ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                  LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                     CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                      AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                         AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6.09e-152
1552.00
1552.00
99.67%
99.34%
95.39%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 004
```

600

185 480 165 420 145 360 125 300 105 240 85 180 65 120 45 60 ð 밁 δ 밁 5 В ð 밁 S 밁 S 밁 S

밁

226

Ś

206

```
APPLICANT: COLORY, VISIGNITY Y.
APPLICANT: MOLERC, Adam R.
APPLICANT: Wolenc, Adam R.
APPLICANT: Purtak, Katearxyna
APPLICANT: Furtak, Katearxyna
APPLICANT: Grosse, William M.
APPLICANT: Grosse, William M.
APPLICANT: Lepley, Denise M.
APPLICANT: Lepley, Denise M.
APPLICANT: Lepley, Denise M.
APPLICANT: Burgess, Catherine E.
TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Sam
FILE REFERENCE: 21402-258
CURRENT APPLICATION NUMBER: US/10/072,012
FRIOR APPLICATION NUMBER: 60/265,102
FRIOR APPLICATION NUMBER: 60/265,514
FRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR AP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGGCCACGATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGTGGTTGGACAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProTrpieuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Same
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             225
                                                  δ
                                                                                     밁
                                                                                                            Ş
                                                                                                                                               뮰
                                                                                                                                                                      Ş
                                                                                                                                                                                                         뮍
                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; LENGTH: 690
; TYPE: PRT
; ORGANISM: Homo s
US-10-072-012-703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: 60/267,057
PRIOR PILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR ETLING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR FILING DATE: 2001-02-08
PRIOR FILING DATE: 2001-02-08
PRIOR FILING DATE: 2001-02-08
PRIOR FILING DATE: 1391
SEQ ID NO 703
FENOTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-029-345A-108_COPY_538_1443 (1-906) x US-10-072-012-703 (1-690)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alignment Scores: Pred. No.:
                                                   661
                                                                                   226
                                                                                                               601
                                                                                                                                             206
                                                                                                                                                                          541
                                                                                                                                                                                                         186
                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                    166
                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                146
                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                          126
                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                      106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 86
99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120
                                                                                                                      CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                            26
                                                                                                                                                                                  ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                               CACATTITGGAAGCCATTAATATCAACTGCTCGAAGCTTATGAAGCGAAGGTTGCAACAG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AspLysValleulleThrGluLeulleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerdlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6.09e-152
1552.00
99.67%
99.34%
95.39%
12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       See File Wrapper or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              690
300
1
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PALM
   265
                                                             245
                                                                                           660
                                                                                                                         225
                                                                                                                                                       600
                                                                                                                                                                                    205
                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                185
                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                          165
                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                        145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
```

APPLICANT Spytek, Kimberly
APPLICANT Spytek, Kimberly
APPLICANT Spytek, Kimberly
APPLICANT Spytek, Kimberly
APPLICANT Spytek, Kimberly
APPLICANT Shimkets, Richard
APPLICANT Shimkets, Richard
APPLICANT Shimkets, Richard
APPLICANT Shimkets, Muralidha
APPLICANT Anderson, David W.
APPLICANT Anderson, David W.
APPLICANT Miller, Charles E.
APPLICANT Setelli, Luca
APPLICANT Gerlach, Valerie
APPLICANT Gusev, Vladimir Y.
APPLICANT Golman, Steven D.
APPLICANT Pena, Carol E. A
APPLICANT Pena, Carol E. A
APPLICANT Fentak, Katarzyna

Li, Li
Gangolli, Esha
Padigaru, Muralidhara
Anderson, David W.
Rastelli, Luca
Miller, Charles E.
Gerlach, Valerie
Taupier Jr, Raymond J.
Gusev, Vladimir Y.

RESULT 12 US-10-072-012-703

GENERAL INFORMATION:

Sequence 703, A

Application US/10072012 . US20040033493A1

밁 Ś Вb Ş В Ş 밁 Ś 밁 Ś

326 ĠĺnThr 327

CAGACT 906

306 901

841

```
ઈ
                                                                                                                    8
                                                                                                                                                밁
                                                                                                                                                                           S
                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                               Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 13
US-10-425-114-54204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ર્ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                    δ
                                                                                                밁
                                                                                                                                                                                                                                                                                                                 US-10-029-345A-108_COPY_538_1443 (1-906) x US-10-425-114-54204 (1-690)
                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; OTHER INFORMATION: US-10-425-114-54204
                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                              Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Liu, Jingdong
APPLICANT: Zhou, Yihua
APPLICANT: Scoen, Steven E
APPLICANT: Screen, Steven E
APPLICANT: Tabaska, Jack E
APPLICANT: Tabaska, Jack E
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated
TITLE OF INVENTION: 0153313) B
CURRENT APPLICATION NUMBER: US/10/425,114
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 73128
SEQ ID NO 54204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 54204, Application US/10425114 Publication No. US20040034888A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT ORGANISM: Homo sapiens FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 690
                                                                                                                                                                                                                                                                                                                                                                                                                  No.:
                  301
                                                                                                                           181
                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                  98
                                                                                                                                                      66
                                                                                                                                                                                                           46
                                                                                                                                                                                                                      61 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                          GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240
                                                                                                                                                                 CACATTITGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                              ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCCTATCGCCTACATCATG
GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                          AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                        SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GlnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Clone ID: LIB4119-028-H6_FLI.pep
                                                                                                                                                                                                                                                                                                                                               6.09e-152
1552.00
199.67%
99.34%
99.34%
12
                                                                                                                                                   uAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                         Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                               300
300
1
0
                                                                     300
                  360
                                            125
                                                                                                105
                                                                                                                                                      85
                                                                                                                                                                                                         65
                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                               45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 14
US-10-072-012-681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                          Sequence 681, Application US/10072012 Publication No. US20040033493A1
                                                                                                                        APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                              APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                            APPLICANT:
APPLICANT:
APPLICANT:
                                                                                APPLICANT:
APPLICANT:
APPLICANT:
 APPLICANT: Lepley, Denise M.
APPLICANT: Rieger, Daniel K.
APPLICANT: Burgess, Catherine E.
TITLE OF INVENTION: Proteins and Nucleic Acids Encoding
FILE REFERENCE: 21402-258
CURRENT APPLICATION NUMBER: US/10/072,012
                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                             326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              126 AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                               Spytek, Kimberly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                             GlnThr 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGTGGTTGGACAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerAsnThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                Furtak, Katarzyna
Grosse, William M.
Alsobrook II, John P.
                                                                                                                                                                                                                                                           Li, Li
Gangolli, Esha
                                                                                                                        Colman, Steven D. Wolenc, Adam R. Pena, Carol E. A
                                                                                                                                                                Miller, Charles E.
Gerlach, Valerie
Taupier Jr, Raymond J.
Gusev, Vladimir Y.
                                                                                                                                                                                                                                                                                      Patturajan, Meera
Shimkets, Richard
                                                                                                                                                                                                                      Anderson, David W.
Rastelli, Luca
                                                                                                                                                                                                                                             Padigaru, Muralidhara
                                                                                                                                                                                                                                                                                                                  Zerhusen, Bryan
                                                                                                                                                                                                                                                                                                                                             Velizar
                               Same
```

```
US-10-029-345A-108_COPY_538_1443 (1-906) x US-10-072-012-681 (1-665)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-072-012-681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: 60/265,102
PRIOR PILING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-31
PRIOR PILING DATE: 2001-01-31
PRIOR PILING DATE: 2001-01-31
PRIOR PILING DATE: 2001-01-31
PRIOR PILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR PILING DATE: 2001-01-31
PRIOR PILING DATE: 2001-01-31
PRIOR PILING DATE: 2001-01-31
PRIOR PILING DATE: 2001-02-02
PRIOR APPLICATION NUMBER: 60/266,406
PRIOR PILING DATE: 2001-02-02
PRIOR APPLICATION NUMBER: 60/267,057
PRIOR APPLICATION NUMBER: 60/267,057
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Remaining Prior Application data removed -
NUMBER OF SEQ ID NOS: 1391
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 681
LENGTH: 665
                                                                                                                                                                  121
                                                                                                                                                                                                      361
                                                                                                                                                                                                                                               101
                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                     181 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                        81
                                                                                                                                                                                                                                                                                                                                                                             21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                           ThrLeuvalProThrCysileSerGlnProCysLeuProvalAlaAsnileGlyProThr
                                                                                       ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                      LeuAladlyGlybheAlaGlubheSerArgCysbheProGlyLeuCysGluGlyLysSer 140
                                                                                                                                                                CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC 420
                                                                                                                                                                                                                                           GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG 360
                                                                                                                                                                                                                                                                                                                          AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu 120
                                                                                                                                                                                                                                                                                                  CysserGinLysvalvalTyrAspGinSerSerGinAspvalAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyzAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3.21e-151
1545.00
99.34%
99.01%
94.96%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2002-01-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        See File Wrapper or PALM.
                                                           160
                                                                                                    480
                                                                                                                                                                                                                                                                                                    100
                                                                                                                                                                                                                                                                                                                                                                                 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         40
                                                                                                                                          APPLICANT: MAKAMATS, AI
APPLICANT: SATO, HIROYUKI
APPLICANT: SATO, HIROYUKI
APPLICANT: SATO, HIROYUKI
APPLICANT: SATO, HIROYUKI
APPLICANT: ISONO, YUUKO
APPLICANT: ISONO, YUUKO
APPLICANT: ISONO, YUUKO
APPLICANT: NAGAI, KEIICHI
APPLICANT: NAGAI, KEIICHI
APPLICANT: SEKI, NAOSIKO
APPLICANT: NAGHIKO, TSUTOMU
APPLICANT: NAGSHARAI, TSUTOMU
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANT: NAGSHARI, KENNI
APPLICANTI
APPLICANTI
APPLICANTI
APPLICATION NUMBER: 00/350,4749
PRIOR APPLICATION NUMBER: 00/350,435
PRIOR APPLICATION NUMBER: 30/350,435
PRIOR FILING DATE: 2002-01-24
PRIOR FILING DATE: 2002-01-24
PRIOR FILING DATE: 2001-09-14
SOFTWARE: PATENTIN VET. 2.1
SOFTWARE: PATENTIN VET. 2.1
LENGTH: 665
                                Alignment Scores:
Pred. No.:
                                                                                     ; ORGANISM: Homo US-10-094-749-2312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 15
US-10-094-749-2312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                  LENGTH:
TYPE: PR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 2312, Application US/10094749 Publication No. US20030219741A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301 GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        901 CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        261 LysargMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541 CAGCAGAATGGGATTGGGTTATGTGTTATAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUGIYAMA, TOMOY, OTSUKI, TETSUJI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATCCCCGAGTCTCATTTCCTGCGTGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sapiens
    3.21e-151
1545.00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TAKAO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOMOYASU
    Length:
Matches:
665
299
```

240 720

660 220

200 600 180

Ś

S 밁 Ş 뭐 Ş B 5 밁 Ş 밁 Ş 밁 S 뮍 Ś

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                  음 성
                                                                     문
                                                                              중 유
                                                                                                 중 유
                                                                                                                  중 유
                                                                                                                                                                 밁
                                                                                                                                                                           δ
                                                                                                                                                                                      유
                                                                                                                                                                                                     밁
                                                                                                                                                                                                              S
                                                                                                                                                                                                                                 ર્
                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                      ક
      δ
                 밁
                       중 유
                                         ঠ
                                                                                                                                     ક
                                                                                                                                                밁
                                                                                                                                                        ঠ
                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                         ঠ
                                                                                                                                                                                                                                                                                                  US-10-029-345A-108_COPY_538_1443 (1-906) x US-10-094-749-2312 (1-665)
                                                                       221
                                                                                                            841
                                                      241
                                                                                 661
                                                                                          201
                                                                                                   601
                                                                                                                              141
                                                                                                                                                                   121
                                                                                                                                                                                      101
                                                                                                                                                                                               301
301
        901
                  281
                                    261
                                            781
                                                               721
                                                                                                                                                          421
                                                                                                                                                                             361
                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                            81
                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                              \vdash
                                                                                                                                                                                                                         GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                       CAGACT
                                                                                                                                                                   GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                     ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
GlnThr
                 ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                      ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
302
                                                                                                                                                                                                                                                                                                             99.34%
99.01%
94.96%
15
                                                                                                                                                                                                                                                                                                                 Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                             0021
                                                                                                                                                                                              360
                          900
                                    280
                                            840
                                                               780
                                                                        240
                                                                                                   660
                                                                                                             200
                                                                                                                      600
                                                                                                                               180
                                                                                                                                        540
                                                                                                                                                  160
                                                                                                                                                          480
                                                                                                                                                                    140
                                                                                                                                                                             420
                                                                                                                                                                                      120
                                                                                                                                                                                                        100
                                                                                                                                                                                                                 300
                                                                                                                                                                                                                           80
                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                             60
                                                                                                                                                                                                                                                               40
                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                  20
                                                      260
                                                                                 720
                                                                                          220
```

Search completed: June 21, 2004, 13:05:41

Job time : 51.0982 secs

This Page Blank (uspto)

```
Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -MODEL-frame+ n2p.model -DEV=xlp
-Qs/cgn2_1/USPTO_spool_p/US10029345/runat_21062004_122816_4233/app_query.fasta_1.3278
-Qs-/cgn2_1/USPTO_spool_p/US10029345/runat_21062004_122816_4233/app_query.fasta_1.3278
-DB=Issued_Patents_AA -QFMT=fastan -SUPFIX=rai -MINMATCH=0.1 -LOCDEL=0
-LOOPEXT=0 -UNITS_SDITE_1 -END=-1 -WATRIX=blosum62 -TRANS=buman40.cdi
-LIST=45 -DCALIGN=200 -THR_SCORE=pct -THR_MAX=100 -THR_MIN=0 -ALIGN=15
-UST=45 -DCALIGN=200 -NORM=ext -HEAPSIZE=500 -MINLEN=0 -MAXLEN=2000000000
-USER=US10029345_0CGN 1_1_45_0crnnat_21062004_122816_4233 -NCPU=6 -ICPU=3
-NO_MMAP -LARGEQUERY -NEG_SCORES=0 -WAIT -DSPBLOCK=100 -LONGLOG
-DEV_TIMEOUT=120 -WARN_TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPOP=6
-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Command line parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Post-processing: Minimum Match 0%
Maximum Match 100%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OM nucleic -
      Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB DB
                                                                                                  1552
654.5
654.5
654.5
654.5
                                                                                                                                                                                                                 Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        seq length:
seq length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein search, using frame_plus_n2p model
                                                                                                                                                                                                                                                                                                                                                               654321
                                                                                                                                                                                                               Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Xgapop 10.0,
Ygapop 10.0,
Fgapop 6.0,
Delop 6.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-029-345A-108_COPY_538_1443
1627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     June 21, 2004, 12:28:26 ; Search time 11.5553 Seconds (without alignments) 8095.510 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Issued_Patents_AA:*
     389414 seqs, 51625971 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      atggcccatgagatgattgg.....agaagattaagaaccagact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                            /cgn2 6/ptodata/2/iaa/5A_COMB.pep:*
/cgn2 6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2 6/ptodata/2/iaa/6A_COMB.pep:*
/cgn2 6/ptodata/2/iaa/6A_COMB.pep:*
/cgn2 6/ptodata/2/iaa/6B_COMB.pep:*
/cgn2 6/ptodata/2/iaa/backfiles1.pep:*
                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             first 45 summaries
      멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Xgapext
Ygapext
Fgapext
Delext
 US-09-816-494-2
US-09-544-716-14
US-09-557-921-15
US-09-564-357-17
US-09-619-380-16
US-09-557-921-2
US-08-530-290-23
US-08-702-705-805
US-09-702-705-827
US-09-736-457-805
US-09-736-457-805
US-09-736-457-805
US-09-614-1248-805
                                                                                                                                                                                                                                                                  SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0.5
0.5
7.0
Sequence 2, Appli
Sequence 14, Appl
Sequence 15, Appl
Sequence 17, Appl
Sequence 16, Appl
Sequence 2, Appli
Sequence 23, Appl
Sequence 805, App
Sequence 807, App
Sequence 807, App
Sequence 807, App
Sequence 805, App
                                                                                                                                                                                                                 Description
     á
                                밁
                                                                S
                                                                                                                                     DB :
```

```
Sequence 2, Application US/09816494
Patent No. 6664089
GENERAL INFORMATION:
APPLICANT: Meyers, Rachel A.
TITLE OF INVENTION: 38692 AND 21117, NOVEL DUAL SPECIFICITY
TITLE OF INVENTION: PHOSPHATASE MOLECULES AND USES THEREFOR
FILE REFERENCE: 10448-030002
CURRENT APPLICATION NUMBER: US/09/816,494
CURRENT FILING DATE: 2001-03-23
PRIOR APPLICATION NUMBER: US 60/191,858
PRIOR FILING DATE: 2000-03-24
NUMBER OF SEQ ID NOS: 10
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 2
SEQ ID NO 2
SEQ ID NO 2
LENGTH: 665
TYPE: PRT
OGRAVISM: Homo sapiens
US-09-816-494-2
Alignment Scores:
Pred. No.:
99.67%
Best Local Similarity: 99.67%
Best Local Similarity: 99.34%
Ouery Match: 0
DB:
US-10-029-345A-108_COPY_538_1443 (1-906) x US-09-816-494-2 (1-665)
US-10-029-345A-108_COPY_538_1443 (1-906) x US-09-816-494-2 (1-665)
I MetAlaHisGluMetIleGlyThrGln1leValThrGlwArgLeuValAlaLeuGuGu
```

61 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120

181

61

81

```
Sequence 14, Application US/09544716

Patent No. 6492157

GENERAL INFORMATION:
APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
TITLE OF INVENTION: DSP-9 DUAL-SPECIFICITY PHOSPHATASE
CURRENT APPLICATION NUMBER: US/09/544,716

CURRENT FILING DATE: 2000-04-10

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 14
                                                                                                                                                                             ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAATTTTG
                                                                                                                                                                                                                                                                                                                                                             CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                  IlebrociuserHispheLeuArgValbroValAsnAspSerpheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                   CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                     ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCCTTACCTGTTGCCAACATTGGGCCAACC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CysserdinLysvalvalvalTyrAspGinSerserGinAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                               900
                                                                                                                                                                                                                                840
                                                                                                                                                                                                                                                  260
                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                   220
                                                                                                                                                                                                                                                                                                                                    660
                                                                                                                                                                                                                                                                                                                                                     200
                                                                                                                                                                                                                                                                                                                                                                      600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                 RESULT 3
US-09-557-921-15
Sequence 15, Application US/09557921
Patent No. 6551810
GENERAL INFORMATION:
APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
FITLE OF INVENTION: DSP-10 DUAL-SPECIFICITY PHO
CURRENT APPLICATION UNMBER: US/09/557,921
NUMBER OF SEQ ID NOS: 20
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 15
LENGTH: 170
TYPE: PRT
ORGANISM: Homo sapiens
               Alignment Scores:
Pred. No.:
                                                                                                                                                                                                           밁
                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                 Дb
                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; LENGTH: 170
; TYPE: PRT
; ORGANISM: Hom
US-09-544-716-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-029-345A-108_COPY_538_1443 (1-906) x US-09-544-716-14 (1-170)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment Scores:
Pred. No.:
                                                                                                                                                                                                         161
                                                                                                                                                                                                               877 GACTATGAGAAGAAGATTAAG 897
                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                             757
                                                                                                                                                                                                                                                                                                              101
                                                                                                                                                                                                                                                                                                                                577 TATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAAT 636
                                                                                                                                                                                                                                                                                                                                                                                                                                   517
                                                                                                                                                                                                                                                                                                                                                                     61 AsnSerCysProLysProAspPheIleCysGluSerArgPheMetArgValProIleAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     457
                                                                                                                                                                                                                                                                                                                                                                                                                   41
                                                                                                                                                                                                                                                                                                                                                                                                                                                    21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    400 GGCCTCTGTGAAGGAAAA---TCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTA 456
                                                                                                                                                                                                  GluTyrGluArgThrLeuLys 167
                                                                                                                                                                                                                             ACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGA 816
                                                                                                                                                                                                                                                                                              GATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTAATGTGTTAAATGCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                     AspvalleuAsnLysAspleuMetThrGlnAsnGlylleSerTyrValLeuAsnAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo
    2.22e-71
654.50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           654.50
88.62%
72.46%
40.23%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                     PHOSPHATASE
170
121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              170
121
27
18
```

876 160

80

60 576 40 516 20

661

109 181

541 161 481 141 421 121 361 101 301

RESULT 2 US-09-544-716-14

밁 Ş 밁 Ş 뮍 Ś 밁 Ş DP G Ş В Ş В Ś 뭥 Ś 밁 δ 뮍 Ś В Ś В Ş 밁 Ś 밁 S 밁

301 GinThr 302

901 281 841 261 781 241

CAGACT 906

20

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                           Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                          US-09-564-357-17
                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-029-345A-108_COPY_538_1443
                     US-10-029-345A-108_COPY_538_1443 (1-906) x US-09-564-357-17 (1-170)
                                                                                                                          Alignment Scores:
                                                                                                                                                     ORGANISM: Homo
                                                                                                                                                                                     TITLE OF INVENTION: DSP-5 DUAL-SPECIFICITY
FILE REFERENCE: 200125.413
CURRENT APPLICATION NUMBER: US/09/564,357
CURRENT FILING DATE: 2000-04-24
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 17
LENGTH: 170
                                                                                                                                                                                                                                                                                                                  Sequence 17, Applicate Patent No. 6645753
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                           APPLICANT: Luche, Ra
APPLICANT: Wei, Bo
                                                                                                                 ŏ
::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              697
                                                                                                                                                                                                                                                                                                                                                                                                161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        517 GATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTTAAATGCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     400 GGCCTCTGTGAAGGAAAA---TCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTA
400 GGCCTCTGTGAAGGAAAA---TCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTA 456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 AsnSerCysProLysProAspPheIleCysGluSerArgPheMetArgValProIleAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCAAAAGCCTCCAATGGATGTTTTAGTGCACTGTTTTAGCTGGGATCTCCCGCTCCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AlaLysLeuSerSerCysGlnValIleValHisCysLeuAlaGlyIleSerArgSerAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AspValLeuAsnLysAspLeuMetThrGlnAsnGlyIleSerTyrValLeuAsnAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                GluTyrGluArgThrLeuLys
                                                                                                                                                                                                                                                                                                                                                                                                                          GACTATGAGAAGAAGATTAAG 897
                                                                                                                                                                                                                                                                                                                                                                                                                                                   PheValLysAspArgArgProSerIleSerProAsnPheAsnPheLeuGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTTGTGAAAGAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ThrileAlaIleAlaTyrIleMetLysThrMetGlyMetSerSerAspAspAlaTyrArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAAT :::|||||||||||||||:::|||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCTGTTGCCAACATTGGGCCAACCCCGAATTCTTCCCCAATCTTTATCTTGGCTGCCAGCGA
                                                                                                                                                                                                                                                                                                                                              Application
                                                                                                                                                                 sapiens
                                                                                                                                                                                                                                                                                                       Ralf M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ::
::
=
                                                           2.22e-71
654.50
88.62%
72.46%
40.23%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    88.62%
72.46%
40.23%
                                                                                                                                                                                                                                                                                                                                              US/09564357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (1-906) x US-09-557-921-15
                                                                                                                                                                                                                                                                                                                                                                                                  167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative: Mismatches: Indels:
                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                 PHOSPHATASE
                                                  170
121
27
18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (1-170)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       516
                                                                                                                                                                                                                                                                                                                                                                                                                                                    160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20
                       밁
                                               á
                                                                          밁
                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 5
US-09-619-380-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
 δ
                                                                                                                                                                             Percent Similarity:
Best Local Similarity:
                                                                                                                           US-10-029-345A-108_COPY_538_1443 (1-906) x US-09-619-380-16 (1-170)
                                                                                                                                                                  Query Match:
                                                                                                                                                                                                                   Pred. No.:
                                                                                                                                                                                                                             Alignment Scores:
                                                                                                                                                                                                                                                         US-09-619-380-16
                                                                                                                                                                                                                                                                                                       FILE REFERENCE: 200125.418
CURRENT APPLICATION NUMBER: US/09/619,380
CURRENT FILING DATE: 2000-07-19
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 16
                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
APPLICANT: Wei, Bo
TITLE OF INVENTION: DSP-11 DUAL SPECIFICITY PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 16, Appl:
Patent No. 664939:
                                                                                                                                                                                                                                                                     TYPE: PRT
ORGANISM: Homo
                                                                                                                                                                                                                                                                                              LENGTH: 170
                                                                         141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        517
                                       457 CCTGTTGCCAACATTGGGCCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGA 516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      161 GluTyrGluArgThrLeuLys 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              877 GACTATGAGAAGAAGATTAAG 897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             517 GATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGC 576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            41
                          21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ч
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGGATTGGTTATGTGTTAAATGCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTTGTGAAAGAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCCAACTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ThrileAlaileAlaTyrIleMetLysThrMetGlyMetSerSerAspAspAlaTyrArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProValProSerValGlyLeuThrArgIleLeuProHisLeuTyrLeuGlySerGlnLys
                         ProvalProSerValGlyLeuThrArgIleLeuProHisLeuTyrLeuGlySerGlnLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Application US/09619380
                                                                                                                                                                                                                                                                     sapiens
                                                                                                                                                                 2.22e-71
654.50
88.62%
72.46%
40.23%
                                                                                                                                                                                                      Length:
Matches:
                                                                                                                                                                  Mismatches:
Indels:
                                                                                                                                                                                           Conservative:
                                                                                                                                                      170
121
27
18
1
```

160 876 140 816 120 756 100 696 80 636 60

40

```
US-10-029-345A-108_COPY_538_1443 (1-906) x US-09-557-921-2 (1-482)
                                                                                                                                                                                                                                                                                                                                                                                                                           ; LENGTH: 482
; TYPE: PRT
; ORGANISM: Homo s
US-09-557-921-2
                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                   Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 2, Application US/09557921
Patent No. 6551810
GENERAL INFORMATION:
APPLICANT: Luche, Ralf M.
APPLICANT: Mei, Bo
TITLE OF INVENTION: DSP-10 DUAL-SPE
FILE REFERENCE: 200125.416
                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: Fast
SOFTWARE: Fast
SEQ ID NO 2
TENGTH: 482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 6
US-09-557-921-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: DSP-10 DUAL-SPECIFICITY PHOSPHATASE FILE REFERENCE: 200125.416
CURRENT APPLICATION NUMBER: US/09/557,921
CURRENT FILING DATE: 2000-04-20
NUMBER OF SEQ ID NOS: 20
                  313 ACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGG
                                                                      253 GTTGTAÇTTTAÇGAȚCANAGCTCCCAAGATGTTGCCTCTCTCTCTCTAGACTGTTTTÇTÇ 312
                                                                                                                           196 ACAGAGCTCATCCAG----CATTCAGCGAAACATAAGGTTGACATTGACTTGCAGTCAGAAG
                                                                                                                                                      193 HisileAsnCysAlaAspLysIleSerArgArgArgLeuGinGinGlyLysIleThrVal
                                                                                                                                                                                                          173 ValileileAspCysArgProPheMetGluTyrAsnLysSerHisileGlnGlyAlaVal 192
                                                                                                                                                                                                                            877
                                             IleIlevaiTyrAspGluAsnThrAsnGluProSerArgValMetProSerGlnProLeu
                                                                                                 LeuAspLeuIleSerCysArgGluGlyLysAspSerPheLysArgIlePheSerLysGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                      AATATCAACTGCTCC---AAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATT 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   101 AlaLysLeuSerSerCysGlnValIleValHisCysLeuAlaGlyileSerArgSerAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    697 GCAAAAGCCTCCAATGGATGTGTTTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACTATGAGAAGAAGATTAAG 897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTTGTGAAAGAAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTG 876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCATCGCTATCGCCTACATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGA 816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ThrileAlaileAlaTyrileMetLysThrMetGlyMetSerSerAspAspAlaTyrArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGACTGTGAAT 636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAA 696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sapiens
                                                                                                                                                                                                                                                                                                                       2.15e-48
469.00
57.72%
35.91%
28.83%
                                                                                                                                                                                                                                                                                                                 Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                             Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                        65
96
30
                                                                                                                                                                                                                                                                                                                                                           107
                     372
                                              252
                                                                                                    232
                                                                                                                              252
                                                                                                                                                          212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                             RESULT 7
US-08-530-290-23
                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                Sequence 23, Application US/08530290

Patent No. 5958721

GENERAL INFORMATION:
APPLICANT: Marshall, Christopher John
APPLICANT: Marshall, Christopher John
APPLICANT: Highes, David Anthony
TITLE OF INVENTION: Methods for Screening of Substances for NUMBER OF SEQUENCES: 24

CORRESPONDENCE NEED: 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                              ZIP: 94111-3834

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, V
ADDITORTON MARDED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뭕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/GB94/00694
FILING DATE: 31-MAR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                       ADDRESSEE: Townsend
                                                       APPLICATION NUMBER: US/0 FILING DATE: 14-DEC-1995
                                                                                                                                                                                                                  STREET:
CITY: 8
                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                  427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   727 CACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATGAAGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                387 PheGluGluAlaPheGluPheIleGluGluAlaHisGlnCysGlyLysGlyLeuLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           667 TTGGACAAATCAGTAGATTTÇATTGAGAAAGÇAAAAGCCTCCAATGGATGTTCTAGTG
                                                                                                                                                                                             San Francisco
California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         351 vailleAsnValThrThrHisLeuProLeuTyrHisTyrGluLysGlyLeuPhe-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   502 CTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     312 ---ProThrThrProAspIleGluAsnAlaGluLeuThrProIleLeuProPheLeuPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          373 TTTGCTGAGTTCTCCGTTGTTTCCCTGGCCTCTGTGAAGGAAAA--------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ThrangMetThrMetThrAspAlaTyrLysPhevalLysGlyLysArgProllelleSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HisCysGlnAladiyValSerArgSerAlaThrilevalileAlaTyrLeuMetLysHis 426
                                                                                                                                                                                                                E: Townsend and Townsend and Crew LLP Two Embarcadero Center, Eighth Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----AsnTyrLysArgLeubroAlaThrAspSerAsnLysGlnAsnLeuArgGlnTyr 386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTGCCCGTGG
                                                                                                                                                                                       USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTGTTAAATGCCAGC-----TATACCTGTCCAAAGCCTGACTTTATCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LeuGiyAsnGluGlnAspAlaGlnAspLeuAspThrMetGinArgLeuAsnileGiyTyr 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGÇÇTTGCTTAÇÇT---GTTGCCAAÇATTGGGCCAAÇÇCGAATTÇTTÇÇÇAATÇTTAT 501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CysArgGluValGlyGlyGlyAlaSerAlaAlaSerSerLeuLeuProGlnProile---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LeuSerSerpheLysGlnAsnHisGluAsnLeuCysAspAsnSerLeuGlnLeuGlnGlu 292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US/08/530,290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Version #1.30
```

406 726

666 368 909 561 330

311 444

417

밁 Ş 밁 Ś 뭐 δ 닭 Ś 밁 Ş 밁 δ 밁

Score:

Query Match:

Ś 밁 Ś В Ś 밁 Ś DЪ Ś

263

680 243

323 860 303 800 283 740

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ş
                       밁
                                                           ð
                                                                                              밁
                                                                                                                         δ
                                                                                                                                                           밁
                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                            ઈ
                                                                                                                                                                                                                                                                                                     뭐
                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                    ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-108_COPY_538_1443 (1-906) x US-08-530-290-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-530-290-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEPAX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 23:
SEQUENCE CHARACTERISTICS:
LENGTH: 394 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: 11 MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 9307250.2
FILING DATE: 07-APR-1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Мо.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Bastian, Kevin L
REGISTRATION NUMBER: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: 084611-000000US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER:
561
                                                                501
                                                                                                184 rSerCysGlyThrProLeuHisAspGlnGluGlyProValGluIleLeuProPheLeuTy
                                                                                                                                  456
                                                                                                                                                                    164
                                                                                                                                                                                                                                      144
                                                                                                                                                                                                                                                                      366 AGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCT
                                                                                                                                                                                                                                                                                                       124 lSerLeuValValGlnAlaLeuArgArgAsnAlaGluArgThrAspIleCysLeuLeuLy 144
                                                                                                                                                                                                                                                                                                                                         312 CACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC-----AACTCTGTTCACCTGCTTGC 365
                                                                                                                                                                                                                                                                                                                                                                           104 aVallleValTyrAspGluArgSerProArgAlaGluSerLeuArgGluAspSerThrVa
                                                                                                                                                                                                                                                                                                                                                                                                           198 AGAGCTCATC-----CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAA 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   138 TAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                             84 uGlnIleLeuProAlaGluGluValArgAlaArgLeuArgSerGlyLeuTyrSerAl 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   65 lAsnValArgCysAsnThrIleValArgArgArg---AlaLysGlySerValSerLeuGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   45 SLeuLeuAspCysArgProPheLeuAlaHisSerAlaGlyTyrIleLeuGlySerVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ||||||::: ||| |||||:::
26 GlyGlyAlaGlyGly-SerGlySerHisGlyThrLeuGlyLeuProSerGlyGlyLysCy 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         45 GGTGGCTCTGCTGGAAAGTGGAACGGAA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   amino acid
TGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCT 620
                              rLeuGlySerAlaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGlyIleThrAl 224
                                                                TCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTA
                                                                                                                                ACCTGTTGCC-----AACATTGGGCCAACCCGAATTCTTCCAATCTTTA
                                                                                                                                                                    uAlaAlaIleProProProValProProSerAlaThrGluProLeuAspLeuAspCysSe
                                                                                                                                                                                                                                    sGlyGlyTyrGluArgPheSerSerGluTyrProGluPheCysSerLysThrLysAlaLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-FEB-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2.73e-43
427.00
52.88%
32.37%
26.24%
2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ဌ္ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    34,774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9402573.1
                                                                                                                                                                                                    -GTCCCTACCTGCATTTCTCAGCCT------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           394
101
64
116
31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (1-394)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -AAAGT
                                                                                                                                                                                                      TGCTT
                                                                                                                                                                    184
                                                                                                                                                                                                      455
                                                                                                                                                                                                                                                                                                                                                                            124
                                                                                                                                                                                                                                                                                                                                                                                                              311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                    204
                                                                                                                                                                                                                                      164
                                                                                                                                                                                                                                                                        425
                                                                                                                                                                                                                                                                      Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                              밁
                                                            Ś
                                                                                                밁
                                                                                                                              á
                                                                                                                                                                  片
                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                           Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    $
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                    US-10-029-345A-108_COPY_538_1443 (1-906) x US-09-702-705-805 (1-394)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-702-705-805
                                                                                                                                                                                                                                                                                                                                            Score:
                                                                                                                                                                                                                                                                                                                                                                                                              US-09-702-705-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: Fa
SEQ ID NO 805
LENGTH: 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 805, Application US/09702705 Patent No. 6504010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Retter, Marc
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Pan, Liqun
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C1.4
CURRENT APPLICATION NUMBER: US/09/702,705
CURRENT FILING DATE: 2000-10-30
NUMBER OF SEQ ID NOS: 1833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           681
                                                                138 TAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTAC 197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      263 eGluTyrIleAspAlaValLysAspCysArgGlyArgValLeuValHisCysGlnAlaGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                224 aLeuLeuAsnValSerSerAspCysProAsn---HisPheGluGlyHisTyrGlnTyrLy
198 AGAGCTCATC-----CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAA 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   323 eMetGlyGlnLeuLeuGlnPheGluSerGlnVal 334
                                65
                                                                                                                      ||||||::: ||| |||||::
26 GlyGlyAlaGlyGly-SerGlySerHisGlyThrLeuGlyLeuProSerGlyGlyLyBCy 45
                                                                                                                                                                                                    45 GGTGGCTCTGCTGGAAAGTGGAACGGAA------
                              lAsnValArgCysAsnThrIleValArgArgArg---AlaLysGlySerValSerLeuGl
                                                                                                  GATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTTTCTAGTGCACTGTTTAGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sCysIleProValGluAspAsnHisLysAlaAspIleSerSerTrpPheMetGluAlaIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTGGGCCAACTCCTGGACTATGAGAAGAAGATT 894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGATGAAGCTTACAGATTTGTGAAAGAAAAAAGACCTACTATATCTCCCAAACTTCAATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAATCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Fanger, Gary
Vedvick, Tom
Carter, Darrick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bangur, Chaitan
Lodes, Michael
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wang, Tongtong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chaitanya
Michael A.
                                                                                                                                                                                                                                                                        427.00
52.88%
32.37%
26.24%
4
                                                                                                                                                                                                                                                                                                                                                           2.73e-43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ß
                                                                                                                                                                                                                                                                                        Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                          Length:
Matcheb:
```

394 101 64 116 31

-----AAAGT

84

124

```
APPLICANT: Bangur, Constanya S.
APPLICANT: Lodes, Michael A.
APPLICANT: Lodes, Michael A.
APPLICANT: Vedvick, Tom
APPLICANT: Vedvick, Tom
APPLICANT: Carter, Darrick
APPLICANT: Retter, Marc
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Pan, Liqun
ITITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C14
CURRENT APPLICATION NUMBER: US/09/702,705
CURRENT FILING DATE: 2000-10-30
SOFTWARE: FastSEQ for Windows Version 3.0
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: Wang, To,
APPLICANT: Bangur,
APPLICANT: Lodes, M.
APPLICANT: Panger,
APPLICANT: Vedvick,
APPLICANT: Carter, I
APPLICANT: Retter, I
                                                                                                                                                                                                                                                                                                            RESULT 9
US-09-702-705-827
; Sequence 827, Application US/09702705
; Patent No. 6504010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |||||||:::
||| SGlyGlyTyrGluArgPheSerSerGluTyrProGluPheCysSerLysThrLysAlaLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |||:::||||||||::: |||
104 aVallleValTyrAspGluArgSerProArgAlaGluSerLeuArgGluAspSerThrVa
                                                                                                                                                                                                                                                                                                                                                                          eMetGlyGlnLeuLeuGlnPheGluSerGlnVal 334
                                                                                                                                                                                                                                                                                                                                                                                                     TCTGGGCCAACTCCTGGACTATGAGAAGAAGATT 894
                                                                                                                                                                                                                                                                                                                                                                                                                         |:::||||||::: |||||||::::|||
|uGluGluAlaPheGluPheValLysGlnArgArgSerIleIleSerProAsnPheSerPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGATGAAGCTTACAGATTTGTGAAAGAAAAAAGACCTACTATATCTCCAAACTTCAATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             eGluTyrileAspAlaValLysAspCysArgGlyArgValLeuValHisCysGlnAlaGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGGTGG
                                                                                                                                                                                                                                                                                 Wang, Tongtong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aLeuLeuAsnValSerSerAspCysProAsn---HisPheGluGlyHisTyrGlnTyrLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sCysIleprovalGluAspAsnHisLysAlaAspileSerSerTrpPheMetGluAlaIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAATCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGTGTTAAATGCCAGCTATAGCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rLeuGlySerAlaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGlyIleThrAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rSerCysGlyThrProLeuHisAspGlnGluGlyProvalGluileLeuProPheLeuTy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A------GTCCCTACCTGCATTTCTCAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCT 425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      lSerLeuvalvalGlnAlaLeuArgArgAsnAlaGluArgThrAspIleCysLeuLeuLy 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACTGTACTTCTGGGTAAACTGGAAGAAGAGCTTC-----AACTCTGTTCACCTGGTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----AACATTGGGCCAACCCGAATTCTTCCCAATCTTTA 500
                                                                                                                                    FOR THE THERAPY AND
                                                                                                                                                                                                                                                                                                                                                                                                                               323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   164
                                                                                       S
                                                                                                                    맑
                                                                                                                                                    Ś
                                                                                                                                                                                  뮍
                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                 DB
B
                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                    Дb
                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                       뭥
                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            $
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; LENGTH: 394
; TYPE: PRT
; ORGANISM: Homo s
US-09-702-705-827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-029-345A-108_COPY_538_1443 (1-906) x US-09-702-705-827 (1-394)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               No.:
                                                                                                  741
                                                                                                                                                                                                                                                                                                                                                                                               164 uAlaAlaIleProProProValProProSerAlaThrGluProLeuAspLeuGlyCysSe 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               198 AGAGCTCATC-----CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAA
AGATGAAGCTTACAGATTTGTGAAAGAAAAAAAGACCTACTATATCTCCAAACTTCAATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 84 uGinIleLeuProAlaGluGluGluValArgAlaArgLeuArgSerGlyLeuTyrSerAl 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      138 TAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTAC
                                         GATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          65 lAsnvalArgCysAsnThrIleValArgArgArg---AlaLysGlySerValSerLeuGl 84
                                                                                                                                                          GCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAATCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     45 SLeuLeuLeuAspCysArgProPheLeuAlaHisSerAlaGlyTyrIeLeuGlySerVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ||||||::: ||| |||||:::
26 GlyGlyAlaGlyGly-SerGlySerHisGlyThrLeuGlyLeuProSerGlyGlyLysCy 45
                                                                                                                                                                                                                     aLeuLeuAsnvalSerSerAspCysProAsn---HisPheGluGlyHisTyrGlnTyrLy
                                                                                                                                                                                                                                           TGTGTTRAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCT 620
                                                                                                                                                                                                                                                                             rLeuGİySeralaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGİyİİeThrAl 224
                                                                                                                                                                                                                                                                                                                                       45
                                                                                                                                                                                                                                                                                                        TCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTA 560
                                                                                                                                                                                                                                                                                                                                                       ----TGC---TTACCTGTTGCCAACATT---GGGCCAACCCGAATTCTTCCCCAATCTTTA 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                        sGlyGlyTyrGluArgbheSerSerGluTyrProGluPheCysSerLysThrLysAlaLe 164
                                                                                                                                                                                                                                                                                                                                                                                                                          A-----GTCCCTACCTGCATTTCTCAGCCT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGGIGGGITTGCTGAGITCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                lSerLeuValValGlnAlaLeuArgArgAsnAlaGluArgThrAspIleCysLeuLeuLy 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC-----AACTCTGTTCACCTGCTTGC 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGTGGCTCTGCTGGAAAGTGGAACGGAA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2.73e-43
427.00
53.85%
32.69%
26.24%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           394
102
66
113
31
                                                                                                                                                               263
                                                                                                                                                                                                                                                                                                                                         204
                                                                                                                                                                                                                                                                                                                                                                                                                             450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     65
```

밁 Ś 망 Ş 뮹 8 뮍 Ś 밁 Ś 뮹 Ś 밁 Ś 밁 Ś В Ş 뭕 Ş 밁 5 뫄 Ś

323 861 303 283

V

밁 Ś

560

204

```
GENERAL INFORMATION:
APPLICANT: Wang, Tongton
APPLICANT: Lodes, Michae
APPLICANT: Lodes, Michae
APPLICANT: Panger, Gary
APPLICANT: Vedvick, Tom
APPLICANT: Retter, Marc
APPLICANT: Mannion, Jane
APPLICANT: Wang, Aijun
APPLICANT: Wang, Aijun
APPLICANT: Wang, Aijun
APPLICANT: Wang, Aijun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; ORGANISM: Homo sapiens
US-09-736-457-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-736-457-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-029-345A-108_COPY_538_1443 (1-906) x US-09-736-457-805 (1-394)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/09/736,457
CURRENT FILING DATE: 2000-12-13
NUMBER OF SEQ ID NOS: 1864
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 805
LENGTH: 394
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 805, Appl Patent No. 6509448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER FILE REFERENCE: 210121.478C15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           No.:
426
                                                                                                                                                                                                                                                                   104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           323
                                                 144
                                                                                                   366 AGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCCTGGCCCTCTGTGAAGGAAAATCCACTCT
                                                                                                                                                     124 lSerLeuValValGlnAlaLeuArgArgAsnAlaGluArgThrAspIleCysLeuLeuLy 144
                                                                                                                                                                                                            312 CACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC----AACTCTGTTCACCTGCTTGC 365
                                                                                                                                                                                                                                                                                                                                                                                                                        198 AGAGCTCATC-----CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAA 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              138 TAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTAC 197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               65
                                                                                                                                                                                                                                                                                                                                                                    84 uGlnIleLeuProAlaGluGluValArgAlaArgLeuArgSerGlyLeuTyrSerAl 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4
5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26 GlyGlyAlaGlyGly-SerGlySerHisGlyThrLeuGlyLeuProSerGlyGlyLysCy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             45 GGTGGCTCTGCTGGAAAGTGGAAA------AAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bangur, Chaitanya s
Lodes, Michael A.
Fanger, Gary
Vedvick, Tom
                                                                                                                                                                                                                                                             avalIleValTyrAspGluArgSerProArgAlaGluSerLeuArgGluAspSerThrVa
                                                                                                                                                                                                                                                                                                            A-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    lAsnValArgCysAsnThrIleValArgArgArg---AlaLysGlySerValSerLeuGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sLeuLeuLeuAspCysArgProPheLeuAlaHisSerAlaGlyTyrIleLeuGlySerVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Carter, Darrick
Retter, Marc
Mannion, Jane
Fan, Ligun
                                                 sGlyGlyTyrGluArgPheSerSerGluTyrProGluPheCysSerLysThrLysAlaLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTGGGCCAACTCCTGGACTATGAGAAGAAGATT 894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               uGluGluAlaPheGluPheValLysGlnArgArgSerIleIleSerProAsnPheSerPh 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Application
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tongtong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2.73e-43
427.00
52.88%
32.37%
26.24%
-----GTCCCTACCTGCATTTCTCAGCCT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US/09736457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ຜ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      101
64
116
116
31
--TGCTT 455
                                                                                                                                                                                                                                                                124
                                                                                                      425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            45
                                                    164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   65
                                                                                             Percent Similarity:
Best Local Similarity:
Query Match:
                   US-10-029-345A-108_COPY_538_1443 (1-906) x US-09-736-457-827
                                                                                                                                                                                                                                                                                         ; ORGANISM: Homo sapiens
US-09-736-457-827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-736-457-827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               吊
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                   Score:
                                                                                                                                                                                                                                     Alignment Scores:
                                                                                                                                                                                                                                                                                                                                        SOFTWARE: FA
SEQ ID NO 827
LENGTH: 394
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Retter, real APPLICANT: Mannion, Jane APPLICANT: Mannion, Jane APPLICANT: Mannion, Jane APPLICANT: Mang, Aijun APPLICANT: Wang, Aijun APPLICANT: Wang, Aijun APPLICANT: Wang, Aijun APPLICANT: WANG AND METHODS TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF TITLE OF 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 827, Appl
Patent No. 6509448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/736,457
CURRENT FILING DATE: 2000-12-13
NUMBER OF SEQ ID NOS: 1864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                               No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        184 rSerCysGlyThrProLeuHisAspGlnGluGlyProValGluIleLeuProPheLeuTy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   eMetGlyGlnLeuLeuGlnPheGluSerGlnVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         eGluTyrIleAspAlaValLysAspCysArgGlyArgValLeuValHisCysGlnAlaGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aLeuLeuAsnValSerSerAspCysProAsn---HisPheGluGlyHisTyrGlnTyrLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bangur, Chaitan
Lodes, Michael I
Fanger, Gary
Vedvick, Tom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                uGluGluAlaPheGluPheValLysGlnArgArgSerIleIleSerProAsnPheSerPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGATGAAGCTTACAGATTTGTGAAAGAAAAAAAGACCTACTATATCTCCAAACTTCAATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sCysIleProValGluAspAsnHisLysAlaAspIleSerSerTrpPheMetGluAlaIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAATCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGTGTTAAATGCCAGCTATACCTGTCCAAAAGCCTGACTTTATCCCCGAGTCTCATTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCTGTTGCC------AACATTGGGCCAACCCGAATTCTTCCCAATCTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                        FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTGGGCCAACTCCTGGACTATGAGAAGAAGATT 894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         yIleSerArgSerAlaThrIleCysLeuAlaTyrLeuMetMetLysLysArgValArgLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rLeuGlySerAlaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGlyIleThrAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Carter, Darrick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Wang,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Application US/09736457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tongtong
r, Chaitanya
                                                                                                   2.73e-43
427.00
53.85%
32.69%
26.24%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                တ
                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SHI
                                                                             394
102
66
113
31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        THERAPY
                           (1-394)
```

323 860 303 800 283 740 263 680 243 620 224

δ

र् 밁

ક 8 ঠ 밁 ঠ

밁

ð

밁 S

밁

```
138 TAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTAC
                                                                                                                                                                                                                     uGludiuAlaPheGluPheValLysGlnArgArgSerIleIleSerProAsnPheSerPh
                                                                                                                                                                                                                                        AGATGAAGCTTACAGATTTGTGAAAGAAAAAAAGACCTACTATATCTCCAAACTTCAATTT
                                                                                                                                                                                                                                                                            45 sleuleuleuhspCysArgProPheLeuAlaHisSerAlaGlyTyrIleLeuGlySerVa
                                                                                                                                                                                                                                                                                           GATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTT
                                                                                                                                                                                                                                                                                                                                 eGluTyriieAspAlaValLysAspCysArgGiyArgValLeuValHisCysGlnAlaGi
                                                                                                                                                                                                                                                                                                                                                AGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                     GCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGT
                                                                                                                                                                                                                                                                                                                                                                                        sCysIleProvalGluAspAsnHisLysAlaAspIleSerSerTrpPheMetGluAlaIl
                                                                                                                                                                                                                                                                                                                                                                                                                                              aLeuLeuAsnvalSerSerAspCysProAsn---HisPheGluGlyHisTyrGlnTyrLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCT 620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTA 560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rLeuGiySerAlaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGiyileThrAl 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 uAlaAlaIleProProProValProProSerAlaThrGluProLeuAspLeuGlyCysSe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sGlyGlyTyrGluArgbheSerSerGluTyrProGluPheCysSerLysThrLysAlaLe 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             lSerLeuValValGlnAlaLeuArgArgAsnAlaGluArgThrAspIleCysLeuLeuLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CACTGTACTTCTGGGTAAAÇTGGAGAGAGCTTC-----AACTCTGTTCACÇTGÇTTGC 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   aVaillevaityrAspGluArgSerProArgAlaGluSerLeuArgGluAspSerThrVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            uGlnIleLeuProAlaGluGluGluValArgAlaArgLeuArgSerGlyLeuTyrSerAl 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGAGCTCATC-----CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAA 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               :|||::: |||::: |||| :::
|AsnValArgCysAsnThrIleValArgArg---AlaLysGlySerValSerLeuGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 dlydlyAlaGlyGly-SerGlySerHisGlyThrLeuGlyLeuProSerGlyGlyLyscy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -AAAGT
                                                                                                                                                                                                                                                  860
                                                                                                                                                                                                                                                                              303
                                                                                                                                                                                                                                                                                                         800
                                                                                                                                                                                                                                                                                                                                    283
                                                                                                                                                                                                                                                                                                                                                                740
                                                                                                                                                                                                                                                                                                                                                                                           263
                                                                                                                                                                                                                                                                                                                                                                                                                     680
                                                                                                                                                                                                                                                                                                                                                                                                                                                243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Vedvick, Tom
APPLICANT: Carter, Darrick
APPLICANT: Retter, Marc
APPLICANT: Retter, Marc
APPLICANT: Mannion, Jane
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
FILE REFERIOR: 21021.478C9
CURRENT APPLICATION NUMBER: US/09/614,124B
CURRENT APPLICATION NUMBER: US/09/614,124B
CURRENT FILING DATE: 2001-07-11
NUMBER OF SEQ ID NOS: 1668
SEQ ID NO 805
SEQ ID NO 805
LENGTH: 394
TYPE: PRT
ORGANISM: Homo Sapiens
US-09-614-124B-805
                                                            밁
                                                                                 Ś
                                                                                                                   망
                                                                                                                                           S
                                                                                                                                                                      밁
                                                                                                                                                                                                Ś
                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                     맑
                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뮰
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-029-345A-108_COPY_538_1443 (1-906) x US-09-614-124B-805 (1-394)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alignment Scores: Pred. No.:
                                                                                                                                                                        184
                                                                                                                                                                                                   456
                                                                                                                                                                                                                             164
                                                                                                                                                                                                                                                        426
                                                                                                                                                                                                                                                                                                               366
                                                                                                                                                                                                                                                                                                                                          124
                                                                                                                                                                                                                                                                                                                                                                                                 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                               198 AGAGCTCATC-----CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAA 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        138
                                                                                                                                                                                                                                                                                                                                                                                                                                                      84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |||||||::: ||| |||||:::
26 GlyGlyAlaGlyGly-SerGlySerHisGlyThrLeuGlyLeuProSerGlyGlyLysCy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    45
GCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGGTGGTTGGACAAATCAGT
                                        aLeuLeuAsnValSerSerAspCysProAsn---HisPheGluGlyHisTyrGlnTyrLy
                                                                 TGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCT
                                                                                                                            TCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTA
                                                                                               rLeuGiySerAlaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGiyileThrAl
                                                                                                                                                    rSerCysGlyThrProLeuHisAspGlnGluGiyProValGluiieLeuProPheLeuTy
                                                                                                                                                                                ACCTGTTGCC------AACATTGGGCCAACCCGAATTCTTCCCAATCTTTA 500
                                                                                                                                                                                                           uAlaAlaIleProProProValProProSerAlaThrGluProLeuAspLeuAspCysSe
                                                                                                                                                                                                                                         sGlyGlyTyrGluArgPheserSerGluTyrProGluPheCysSerLysThrLysAlaLe
                                                                                                                                                                                                                                                                                             AGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAAATCCACTCT
                                                                                                                                                                                                                                                                                                                                                   CACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC-----AACTCTGTTCACCTGCTTGC 365
                                                                                                                                                                                                                                                                                                                                                                         |||:::|||||||||::: |||
aValIleValTyrAspGluArgSerProArgAlaGluSerLeuArgGluAspSerThrVa 124
                                                                                                                                                                                                                                                                                                                     lSerLeuValValGlnAlaLeuArgArgAsnAlaGluArgThrAspIleCysLeuLeuLy 144
                                                                                                                                                                                                                                                                                                                                                                                                                                  uGlnIleLeuProAlaGluGluGluValArgAlaArgLeuArgSerGlyLeuTyrSerAl 104
                                                                                                                                                                                                                                                                                                                                                                                                          lAsnValArgCysAsnThrIleValArgArg---AlaLysGlySerValSerLeuGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ТРАТАТСЛАСТССТССААССТТАТСВАСССВАССТТССВАССАССВССАВАСТСТВАТТАС 197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGTGGCTCTGCTGGAAAGTGGAACGGAA------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2.73e-43
427.00
52.88%
32.37%
26.24%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FOR THERAPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                394
101
64
116
31
                989
                                            243
                                                                                                  224
                                                                                                                            560
                                                                                                                                                      204
                                                                                                                                                                                                            184
                                                                                                                                                                                                                                         455
                                                                                                                                                                                                                                                                     164
                                                                                                                                                                                                                                                                                              425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     77
```

뫄 δ 밁 5 밁 δ 뮹 Ś 밁 Ş 뮍 Ś д Ś 밁

> 144 366 124 312 104

198

65

78 26

GGTGGCTCTGCTGGAAAGTGGAACGGAA---

84

RESULT 12
US-09-614-124B-805
Sequence 805, Application US/09614124B
Heatent No. 6630574
GENERAL INFORMATION:
APPLICANT: Wang, Tongtong
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Lodes, Michael A.
APPLICANT: Fanger, Gary

ø

밁 S д Ş 밁 Ś 8 Ś 밁 8 밁 Ś 밁 Ś 뫄 S

334

TCTGGGCCAACTCCTGGACTATGAGAAGAAGATT 894

861 323

303

283 741 263 189

243 621

밁 S 밁 S 밁 S 밁 Ś

```
APPLICANT: Retter, Marc
APPLICANT: Mannion, Jane
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THERAPY AND
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C9
CURRENT APPLICATION NUMBER: US/09/614,124B
CURRENT FILING DATE: 2001-07-11
NUMBER OF SEQ ID NOS: 1668
SOFTWARE: FASTSEQ for Windows Version 3.0
SEQ ID NO 827
LENGTH: 394
                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 13
US-09-614-124B-827
                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-108_COPY_538_1443 (1-906) x US-09-614-124B-827 (1-394)
                                                                                                                                                                                                                                                                                                                                                                                                              Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-614-124B-827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: Wang, Tongtong
APPLICANT: Bangur, Chait:
APPLICANT: Lodes, Michael
APPLICANT: Fanger, Gary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 827, App
Patent No. 663057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       283
                                   252
 104
                                                                                                                                                                            138 TAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTAC 197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              243 sCysIleProValGluAspAsnHisLysAlaAspIleSerSerTrpPheMetGluAlaIl
                                                                      84
                                                                                                                                                                                                                                                                                  ||||||::: ||| |||||:::
26 GlyGlyAlaGlyGly-SerGlySerHisGlyThrLeuGlyLeuProSerGlyGlyLysCy 45
                                                                                                                                                                                                                                                 Fanger, Gary
Vedvick, Tom
Carter, Darrick
Retter, Marc
aValIleValTyrAspGluArgSerProArgAlaGluSerLeuArgGluAspSerThrVa 124
                                                                                                         AGAGCTCATC-----CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAA 251
                                                                                                                                                                                                               sLeuLeuLeuAspCysArgProPheLeuAlaHisSerAlaGlyTyrileLeuGlySerVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          eMetGlyGlnLeuLeuGlnPheGluSerGlnVal 334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGG
                                   uGlnIleLeuProAlaGluGluGluValArgAlaArgLeuArgSerGlyLeuTyrSerAl 104
                                                                                                                                                                                                                                                                                                                       GGTGGCTCTGCTGGAAAGTGGAACGGAA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        eGluTyrTleAspAlaValLysAspCysArgGlyArgValLeuValHisCysGlnAlaGl
                                                                                                                                           lAsnValArgCysAsnThrIleValArgArgArg---AlaLysGlySerValSerLeuGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCTGGGCCAACTCCTGGACTATGAGAAGAAGATT 894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGATGAAGCTTACAGATTTGTGAAAGAAAAAAAAGACCTACTATATCTCCAAACTTCAATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   yIleSerArgSerAlaThrIleCysLeuAlaTyrLeuMetMetLysLysArgValArgLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bangur, Chaitar
Lodes, Michael
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Application US/09614124B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chaitanya
                                                                                                                                                                                                                                                                                                                                                                                              2.73e-43
427.00
53.85%
32.69%
26.24%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŝ
                                                                                                                                                                                                                                                                                                                                                                                                            Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                        Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ::
                                                                                                                                                                                                                                                                                                                                                                                              394
102
66
113
31
                                                                                                                                                                                                                                                                                                                         AAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                323
                                                                                                                                                                                                                 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           283
                                                                                                                                            84
                                                                                                                                                                                                                                                                                                                         77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     303
                                            APPLICANT: Mannion, Jane
APPLICANT: Fan, Liqun
ITITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
ITITLE OF INVENTION: DIACNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C12
CURRENT APPLICATION NUMBER: US/99/671,325
CURRENT FILING DATE: 2000-09-26
NUMBER OF SEQ ID NOS: 1825
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 805
LENGTH: 394
TYPE: PRT
ROCANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            몽
 Alignment Scores:
                                     US-09-671-325-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-671-325-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ó
                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                 Patent No.
                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            124 lSerLeuValValGlnAlaLeuArgArgAsnAlaGluArgThrAspIleCysLeuLeuLy 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  312 CACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC-----AACTCTGTTCACCTGCTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                 805, Application US/09671325
o. 6667154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTGGGCCAACTCCTGGACTATGAGAAGAAGATT 894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      eGluTyrileAspAlaValLysAspCysArgGlyArgValLeuValHisCysGlnAlaGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sCysIleProvalGluAspAsnHisLysAlaAspIleSerSerTrpPheMetGluAlaIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aLeuLeuAsnValSerSerAspCysProAsn---HisPheGluGlyHisTyrGlnTyrLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rLeuGlySerAlaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGlyIleThrAl 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rSerCysGlyThrProLeuHisAspGlnGlyGlyProValGluIleLeuProPheLeuTy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----TGC---TTACCTGTTGCCAACATT---GGGCCAACCCGAATTCTTCCCAATCTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sGlyGlyTyrGluArgPheSerSerGluTyrProGluPheCysSerLysThrLysAlaLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        eMetGlyGlnLeuLeuGlnPheGluSerGlnVal 334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             uGluGluAlaPheGluPheValLysGlnArgArgSerIleIleSerProAsnPheSerPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGATGAAGCTTACAGATTTGTGAAAGAAAAAAAGACCTACTATATCTCCAAACTTCAATTT 860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 yIleSerArgSerAlaThrIleCysLeuAlaTyrLeuMetMetLysLysArgValArgLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGATTTCATTGAGAAAAGCAAAAGCCTCCAATGGATGTTCTAGTGCACTGTTTAGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAATCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A-----A----GTCCCTACCTGCATTTCTCAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTA
                                                                                                                                                                                                                                                                                  Retter, Marc
                                                                                                                                                                                                                                                                                                                       Fanger, Gary
Vedvick, Tom
                                                                                                                                                                                                                                                                                                     Carter, Darrick
                                                                                                                                                                                                                                                                                                                                                         Lodes, Michael
                                                                                                                                                                                                                                                                                                                                                                       Wang, Tongtong
Bangur, Chaitanya
                                                                                                                                                                                                                                                                                                                                                                             ß
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               =
                                                                                                                                                                                                                                    FOR
                                                                                                                                                                                                                                    THE THERAPY AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        450
```

र् 밁 ð 문 ş

S 밁

밁

ð

Percent Similarity:
Best Local Similarity:
Query Match:

2.73e-43 427.00 52.88% 32.37% 26.24%

198

65

45

78 26

84

No.:

```
US-10-029-345A-108_COPY_538_1443 (1-906) x US-09-671-325-805 (1-394)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               138 ТААТАТСААСТССТССААССТТАТСВААСССВАССТТССААСАССВАСААСТСТТААТТАС 197
                               TCTGGGCCAACTCCTGGACTATGAGAAGAAGATT 894
|:::||||||||||| :::||
|eMetGlyGlnLeuLeuGlnPheGluSerGlnVal 334
                                                                                |:::||||||::: |||||||::::||
|uGluGluAlaPheGluPheValLysGlnArgArgSerIleIleSerProAsnPheSerPh
                                                                                                     AGATGAAGCTTACAGATTTGTGAAAGAAAAAAAGACCTACTATATCTCCAAACTTCAATTT
                                                                                                                                           yīleSerArgSerAlaThrīleCysLeuAlaTyrLeuMetMetLysLysArgValArgLe
                                                                                                                                                                  GATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTT
                                                                                                                                                                                                        AGATTTCATTGAGAAAAGCAAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGG
                                                                                                                                                                                                                                                                 sCysIleProvaiGluAspAsnHisLysAlaAspileSerSerTrpPheMetGluAlaIl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       45 GGTGGCTCTGCTGGAAAGTGGAACGGAA-----
                                                                                                                                                                                                                                                                                                  GCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAATCAGT
                                                                                                                                                                                                                                                                                                                            aLeuLeuAsnvalSerSerAspCysProAsn---HisPheGluGlyHisTyrGlnTyrLy
                                                                                                                                                                                                                                                                                                                                                   rLeuGlySerAlaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGlylleThrAl
                                                                                                                                                                                                                                                                                                                                                                                                                     TCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                  rSerCysGlyThrProLeuHisAspGlnGluGlyProValGluIleLeuProPheLeuTy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCTGTTGCC-----AACATTGGGCCAACCCGAATTCTTCCAATCTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sGlyGlyTyrGluArgPheSerSerGluTyrProGluPheCysSerLysThrLysAlaLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACTGTACTTCTGGGTAAAÇTGGAGAAGAGCTTC----AACTCTGTTCACÇTGÇTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          aVallleValfyrAspGluArgSerProArgAlaGluSerLeuArgGluAspSerThrVa 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     uGlnīleLeuProAlaGluGluGluValArgAlaArgLeuArgSerGlyLeuTyrSerAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGAGCTCATC-----CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 lAsnvalArgcysAsnThrIlevalArgArg---AlaLysGlyServalSerLeuGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlyGlyAlaGlyGly-SerGlySerHisGlyThrLeuGlyLeuProSerGlyGlyLysCy 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                394
101
64
                                                                                                                                              303
                                                                                                                                                                                                                                                                    263
                                                                                                                                                                                                                                                                                                  680
                                                                                                                                                                                                                                                                                                                               243
                                                                                                                                                                                                                                                                                                                                                                                         224
                                                                                                                                                                                                                                                                                                                                                                                                                      560
                                                                                                                                                                                                                                                                                                                                                                                                                                                    204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   84
                                            Ś
                                                                             B
                                                                                                       Ś
                                                                                                                                      밁
                                                                                                                                                               Ş
                                                                                                                                                                                                 뫄
                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                         Б
                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                  뭐
                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-029-345A-108_COPY_538_1443 (1-906) x US-09-671-325-827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Wang, Tongtong
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Lodes, Michael A.
APPLICANT: Lodes, Michael A.
APPLICANT: Panger, Gary
APPLICANT: Vedvick, Tom
APPLICANT: Retter, Darrick
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C12
CURRENT APPLICATION UNMERE: US/09/671,325
CURRENT APPLICATION TOMBER: US/09/671,325
NUMBER OF SEQ ID NOS: 1825
SOFTWARE: Paster for windows
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; TYPE: PRT
; ORGANISM: Homo
US-09-671-325-827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER FAST SOFTWARE: FAST SEQ ID NO 827 TENGTH: 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 15
US-09-671-325-827
Sequence 827, Application US/09671325
Patent No. 6667154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         No.:
                   184
                                               451
                                                                             164
                                                                                                                                                                  366
                                                                                                                                                                                                 124
                                                                                                                                                                                                                                        198 AGAGCTCATC-----CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAA 251
                                                                                                                                                                                                                                                                                                                                                                                      138 TAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAGTGTTAATTAC
                                                                                                                                                                                                                                                                                                  :::::::::
84 uGlnIleLeuProAlaGluGluValArgAlaArgLeuArgSerGlyLeuTyrSerAl 104
                                                                                                                                                                                                                                                                                                                                                                                                                                            |||||||::: ||| ||||||:::
26 GlyGlyAlaGlyGly-SerGlySerHisGlyThrLeuGlyLeuProSerGlyGlyLysCy 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   45
rSerCysGlyThrProLeuHisAspGlnGlyGlyProValGluileLeuProPheLeuTy
                   ----TGC---TTACCTGTTGCCAACATT----GGGCCAACCCGAAFTCTTCCCAATCTTTA
                                                       uAlaAlaIleProProProValProProSerAlaThrGluProLeuAspLeuGlyCysSe 184
                                                                                        A-----GTCCTACCTGCATTTCTCAGCCT
                                                                                                                  sGlyGlyTyrGluArgPheSerSerGluTyrProGluPheCysSerLysThrLysAlaLe 164
                                                                                                                                                AGGIGGGITTGCTGAGITCICCTGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCT 425
                                                                                                                                                                            lSerLeuValValGlnAlaLeuArgArgAsnAlaGluArgThrAspIleCysLeuLeuLy 144
                                                                                                                                                                                                           CACTGTACTTCTGGGTAAACTGGAGAAGAGCTTC----AACTCTGTTCACCTGCTTGC 365
                                                                                                                                                                                                                                                                                                                                                               lAsnValArgCysAsnThrIleValArgArgArg---AlaLysGlySerValSerLeuGl
                                                                                                                                                                                                                                                                                                                                                                                                                          ### SLeuLeuLeuAspCysArgProPheLeuAlaHisSerAlaGlyTyrIleLeuGlySerVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGTGGCTCTGCTGGAAAGTGGAACGGAA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2.73e-43
427.00
53.85%
32.69%
26.24%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         THERAPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (1-394)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AND
                                                                                        450
                                                                                                                                                                                                                                            124
                                                                                                                                                                                                                                                                        311
                                                                                                                                                                                                                                                                                                                                                                  84
                                                                                                                                                                                                                                                                                                                                                                                                                           65
```

501 184 456 164 426 144 366 124

δ Вb δ 밁 Ş 밁 Ś 뭐 S 당 δ В Ş В δ 뭐 Ś В δ В 5 밁 δ 뫄 Ś 밁 Ş В Ş 뭐 Ş

```
δ
                                                        밁
                                                                          S
                                                                                                      음 성 음
                                                                                                                                                                                       Ş
                                                                                                                                                                                                                      음 성 음
                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                      밁
 323
                                                    681 AGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTTTTAGCTGG 740
::::::::|||:::
|||
263 eGluTyrIleAspAlaValLysAspCysArgGlyArgValLeuValHisCysGlnAlaGl 283
                                                                                                                                                                                                                       621 GCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGT 680
:::||||| |||::: ||||
243 sCysIleProValGluAspAsnHisLysAlaAspIleSerSerTrpPheMetGluAlaIl 263
                                                                                                                                                                                                                                                                                                561 TGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGGAGTCTCATTTCCT 620 ::::|||||| |||
                             861 TCTGGGCCAACTCCTGGACTATGAGAAGAAGATT 894
                                                                                                                                                                                                                                                                             204 rLeuGlySerAlaTyrHisAlaAlaArgArgAspMetLeuAspAlaLeuGlyIleThrAl 224
|:::|||||||||||||||| ::::::
eMetGlyGlnLeuLeuGlnPheGluSerGlnVal 334
                                                                                                                                                                                                                                                                                                                                                         TCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTTGGTTA 560
```

Search completed: June 21, 2004, 12:43:28 Job time: 17.5553 secs

This Page Blank (uspto)

```
Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Total number
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                92:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BB BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nucleic search,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   length: 0 length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     June 21, 2004, 12:17:10 ; Search time 5703.02 Seconds (without alignments) 6885.611 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IDENTITY_NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-029-345A-108_COPY_538_1443
906
                                                                                                                3470272 seqs, 21671516995 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GenEmbl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                atggcccatgagatgattgg.....agaagattaagaaccagact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gb ba:
gb in:
gb in:
gb om:
gb ow:
gb pat:
gb pat:
gb pat:
gb pr:
gb pr:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
gb ro:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Copyright
                                                                               em_un:*
em_vi:*
em_htg_hum:*
em_htg_inv:*
em_htg_other:*
em_htg_pln:*
em_htg_pln:*
em_htg_rod:*
em_htg_mam:*
em_htg_mam:*
                                                                                                                                                                                                                                                                                                                                                                            em pat: *
em ph: *
em pl: *
em ro: *
em gts: *
                         em_htgo_hum: *
em_htgo_mus: *
em_htgo_other:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8€
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      model
```

Pred. No. 18 the number of results predicted by chance to have

REFERENCE AUTHORS

Homo sapiens (human)

Todderud, C.G., Bol, D., Finger, J., Lee, L., Nelson, T., Suchard, S., Banas, D., Bassolino, D., Feder, J., Krystek, Mcatee, P., Mintier, G., Siemers, N., Jackson, D.G. and Ra

and Ramanathan, C.

Schieven,G.,

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; | Mammalia; Eutheria; Primates; Catarrhini; Hominidae;

Euteleostomi; Homo.

score greater than or equal to the score of the result being and is derived by analysis of the total score distribution. printed,

RESULT 1 AX482439 LOCUS DEFINITION ACCESSION VERSION KEYWORDS SOURCE ORGANISM Regult No. 363.6 351 782.8 756.8 727.6 727.6 7127.6 714.2 902.8 902.8 902.8 902.8 902.8 902.8 902.8 902.8 902.8 902.8 902.8 901.2 901.2 901.2 901.2 901.2 Score AX482439 Sequence 108 from Patent AX482439 AX482439.1 GI:22316984 Match 183797 Length 4026 1935 3332 4827 3231 4790 4790 4790 2102 2102 3104 5111 2200 4874 4943 4992 2756 2807 749 3521 3544 3566 3766 from Patent 띪 A59888 MMNTTP1GN BC052705 A59887 AX552119 AX482446 AF345952 BC063941 AF345954 AF345953 AY038927 AX441229 AB052156 AX374994 AB0511487 BD1171157 BD183422 AB051487 AX713989 AX71398 AX71398 AX71398 AX71398 AX713 AR255944 HSU27193 BC045110 AX921917 AX099933 AX180875 AX278461 BC042101 AX441210 AX482439 AX482478 5450 bp I WO02057460. ALIGNMENTS SUMMARIES DNA linear BD171157 Novel gen BD18372 Novel gen AB051487 Homo sapi AX713989 Sequence AX05703 Sequence AX405703 Sequence AX405703 Sequence AX405705 Sequence AX921915 Sequence AX921915 Sequence AX921915 Nus muscu BC059232 Mus muscu BC059232 Mus muscu BC057321 Mus muscu BC057321 Mus muscu BC057321 Mus muscu BC057321 Mus muscu AX48244 Sequence BC031643 Homo sapi AX868469 Sequence BD148531 primer fo AF345953 Mus muscu AY018927 Homo sapi AX441229 Sequence AF345952 Mus muscu BC063941 Danio rer BC052705 Mus muscu A59887 Sequence 5 AX552119 Sequence AX482446 Sequence AF345954 Mus muscu AR355944 Sequence U27193 Human prote BC045110 Homo sapi A59888 Sequence 6 X95518 M.musculus AX441210 Sequence AB052156 Homo sapi AX260340 Sequence AF506796 Homo sapi AX374994 Sequence AX278461 Sequence BC042101 Homo sapi AX099933 Sequence AX180875 Sequence AX260342 Sequence AX921917 Sequence AC022400 Homo sapi AX482439 Sequence AX482478 Sequence Description PAT 16-AUG-2002

```
Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                      1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SgS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
601 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                            958
                                                                                                                                                                          481
                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                   868
                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                         838
                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          718 GÁCAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       598 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              906;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 AGTGGAACGGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120
                                                         CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT 600
                                   CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                       ceaarretreceaaretraretreecreeceaeare
                                                                                                                               CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                ACTCTAGTCGAGCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCA
                                                                                                                                                                                                      ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC 480
                                                                                                                                                                                                                                                                         CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC 420
                                                                                                                                                                                                                                                      crnécaderéderriderédaerrereredritérritécétédecerereradadadainee
                                                                                                                                                                                                                                                                                                                             GÁCTGTTTTCTCACTGTACTTCTGGGTAÁACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                     GACTGITTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                      ĊĀĊĀĪŦŦŦĠĠĀĀĠĊĊĀŦŦĀĀŦĀŦĊĀĀĊŦĠĊŦĊĊĀĀĠĊŦŦĀŦĠĀĀĠĊĠĀĀĠĠŦŦĠĊĀĀĊĀĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACATTITGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTGCTGCTGGAA 597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Polynucleotides encoding human phosphatases
Patent: WO 02057460-A 108 25-JUL-2002;
SQUIBB BRISTOL MYERS CO (US)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /protein_id="CAD44451.1"
/protein_id="CAD44451.1"
/db_xref="GI:22316985"
/db_xref="GI:22316985"
/db_xref="GI:22316985"
/db_xref="RemTREMBL;CAD44451"
/tzanslation="MAHEMIGTQIVTERLIVALLESGTEKVILIDSRPFVEYNTSHILE
AININCSKLMKRRLQQDKVILITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASIJSSDC
RILBNLYLGCQRDVUNKILITELIQHSAKHKVDIDCSGKSTLVPTCISQPCLPVANIGBT
ILPWLDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVE
KRPTISPNFNFLGQLLDYEKKIKQNGGASGFKSKLKLHLEKENEPVPAVSBGGOKSE
SKLKRSFSLDIKSVS'SSASMASLIJGFSSSBDALBYYKPSTTLDGTNKLCQPSPVQE
SMLKRSFSLDIKSVS'SASMASLIJGFSSSBDALBYYKPSTTLDGTNKLCQPSPVQE
USEQTPSTSPDKEBASIFKKLQTARFSDSQSKRLHSVRTSSSGTARSLLSPLRSGS
YSASAIYGGSASYSASGCSQLTTKSAGLGLKGHMSDILAPGTSTPSLTSSMYFATESSHF
PBSCNMRFRGSTMGFNDSDSTTATUTCOGGSDGAMTTENT"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RRSCOMEFGESIMSENRSREELGKVGSOSSFSGSMEIIEVS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"
538. .2535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="unnamed protein product"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 906; DB 6; I
100.0%; Pred. No. 5.4e-268;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 5450;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
 660
                                   1137
                                                                                                                                                                                  1017
                                                                                                                                                                                                                                                        957
                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                 897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                     ORIGIN
                         Query Match
Best Local Similarity
Matches 906; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 2
AX482478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      맑
                                                                                                                                                                                                                                                                                                                                                                                                                                              CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1438 CAGACT 1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1318 ÁAGÁGGATGGACATGTCTTTAGATGAÁGCTTÁCÁGATTTGTGAÁAAAÁAÁAAGACCTÁCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Todderud, C.G., Bol, D., Finger, J., Lee, L., Nelson, T., Suchard, S., Banas, D., Bassolino, D., Feder, J., Krystek Mcatee, P., Mintier, G., Siemers, N., Jackson, D.G. and Folynuclectides encoding human phosphatases patent: WO 02057460-A 147 25-JUL-2002; SQUIBB BRISTOL MYERS C (US)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  901 CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens (human)
Homo sapiens
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AX482478 5450 bp I
Sequence 147 from Patent WO02057460.
AX482478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AX482478.1 GI:22316999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATATCTCCAAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC 1437
                                                                                                                 /protein_id="CAD44453.1"
/protein_id="CAD44453.1"
/brotein_id="CAD44453.1"
/db_xref="GI:22317000"
/db_xref="GI:22317000"
/db_xref="REWTRENBI:CAD044453"
/translation="MAHEMIGTQIVTERLVALLESGTEKVILLIDSRPPVEYNTSHILE
ALMINICSKLMKRRLQQDKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASISSDC
RILPHLXIGCQBVULANGELIQQNGIGYVLNASYTCPRGDIPEREFLRVPVNUSFCEK
KRPTISHNYLGCQBVULANGELIQQNGIGYVLNASYTCPRGDIPEREFLRVPVNUSFCEK
KRPTISHNPHJGQLLDYEKKIKNQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSE
TPLSPPCADSATSEAAGQRPVHPASVPSVPSVQSFLLEDSFLVQALSGLHLSADRLED
LSCQTETTSPNKERASIFKKLQTARPSDSQSKRLHSVYEPSTTLDGTNKLCQFSPVQE
LSCQTPETTSPLKERASIFKKLQTARPSDSQSKRLHSVKTSSGTARSLLSPLHRGGS
YSASAIYGGSASYSAXSCSGLPTCGDQVYSVRRRQKPSDRADSRKSWHEBSPFEKQFK
YSASAIYGGSASYSAXSCSGLPTCGDDVSVRRRQKPSDRADSRKSWHEBSPFEKQFK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ĊŦĀĠŦĠĊĀĊŦĠŦŦŦĀĠĊŦĠĠĠĀŦĊŦĊĊĠĠĊŦĊĆĠĊĊĀĊĠĀŦĊĠĊŦĀŦĊĠĊĊŦĀĊĀŦĠĀŦĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ccereerieghtee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                           RRSCOMEFGESIMSENRSREELGKVGSOSSFSGSMEIIEVS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Homo sapiens"
/mol_type="unassigned DN/
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                               /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                        /note="unnamed protein product"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                        . 2535
```

DNA

linear

PAT 16-AUG-2002

1377

1317

720 1197

DNA "

Krystek

Ramanathan, C Schieven, G., ORIGIN

```
1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60
                                                 100.0%; Score 906; DB 6; 1
ilarity 100.0%; Pred. No. 5.4e-268;
Conservative 0; Mismatches 0;
                                                Indels
                                              ٥,
                                             Gaps
                                             0,
```

S

Ś 밁 Ş Д Ş 밁 Ś В Ś 밁 S 뭕 δ 뭐 Ś DЬ Ş 밁

```
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                         RESULT 3
AX260342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     음 성
                                                                                                                                                                                                    S
                                                                                                                                                                                                                                음 성
                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                          ঠ
                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                          중 유
                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ર્
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                 1318
                                                                                                                                                                                                                                                                             1258
                                                                                                                                                                                                                                                                                                                           1198
                                                                                                                                                                                                                                                                                                                                                                        1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1018
                                                                                                                                                                                                                                                                                                                                                                                                                      1078
                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             898
                                                                                                                                                           901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           538 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
          Homo sapiens (human)
                                                       AX260342
Sequence 3 from
AX260342
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                             AX260342.1
                                                                                                                                                       CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACATTITGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACTGITTTCTCACTGIACTTCTGGGIAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                        CAGACT
                                                                                                                                                                                    ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC
                                                                                                                                                                                                ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                           CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                         ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                    ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                      CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                        1443
                                                                                                                                                            906
                                             GI:16509305
                                                                                                                                                                                                                                                                             1998 bp
Patent W00173059
                                                                               DNA
                                                                                linear
                                                                                PAT
                                                                               26-OCT-2001
                                                                                                                                                                                    1437
                                                                                                                                                                                                                                                                               1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1017
                                                                                                                                                                                                           900
                                                                                                                                                                                                                                 1377
                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                                            1257
                                                                                                                                                                                                                                                                                                                                                  720
                                                                                                                                                                                                                                                                                                                                                                         1197
                                                                                                                                                                                                                                                                                                                                                                                               660
                                                                                                                                                                                                                                                                                                                                                                                                                                             600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
TITLE
  맑
                δ
                                             밁
                                                                  á
                                                                                    В
                                                                                                           δ
                                                                                                                                     밁
                                                                                                                                                       δ
                                                                                                                                                                                  밁
                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 99.0
Best Local Similarity 99.0
Matches 904; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                      601
                                                                                                                                                                                    541
                                                                                                                                                                                                          541
                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                      781
                                               721
                                                                                           661
                                                                                                                 661
                                                                                                                                                               601
                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                   721
  781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       therefor Patent: WO 0173059-A 3 04-OCT-2001; Millennium Pharmaceuticals, Inc. (U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Meyers,R.A. 38692 and 21117: dual specificity phosphatase molecules and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mammalia; Eutheria; Primates; Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                        GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                             CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                      CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                             CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
               ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                     CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                  CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                              CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                           CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                           CTTGCAGGTGGGTTTGCTGAGGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
   CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                        ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 902.8; DB 6;
Pred. No. 4.6e-267;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (SD)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
```

```
REFERENCE
AUTHORS
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S
Matches 904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 4
AX921917
LOCUS
DEFINITION
ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   유 &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                           541 CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                      481
                                                                                                                                                                                                     481
                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                  CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                     cdaarrictricccaarctritarctridgerigecagegagargiccreaacaaggagergarg
                                                                                                                                                                                         ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                A C r c r a d r c c c r a c c r a c c r a c c r a c c r a c c r a c c r a c c r a c c a a c a r a c c a a c c a
                                                                                                                                                                                                                                                         Ċ'nrdeAddrigadrintecidadrirereretetricintrectrocordadeciciereradadadaAAArec
                                                                                                                                                                                                                                                                                                                                                                           GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                  CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC 420
                                                                                                                                                                                                                                                                                                                                             GÁCTGTTTTCTCACTGTACTTCTGGGTAAACTGGAAGAGAGGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Patent: |
Curagen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 901
                                                                                                                                                                                                                                                                                                                                                                                                                                      róckérckákkáderrérkéritakókkrokkádértéckkákkárérrédérterererterték
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GÁCAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAAACATAAGGTTGACATTGAT 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AX921917
Sequence
AX921917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AX921917.1 GI:40215410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO 02068649-A 257 06-SEP-2002;
Corporation (US)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Homo sapiens"
/mol_type="unassigned DN/
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          257 from Patent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99.6%; Score 902.8; DB 6;
99.8%; Pred. No. 4.6e-267;
tive 0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2071 bp D: WO02068649.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 2071;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PAT 18-DEC-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                       600
                                                                                                                                                                540
                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             900
                                         밁
                                                                          Ś
                                                                                                                             문
                                                                                                                                                                   Ş
                                                                                                                                                                                                                 뫄
                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                          뫄
                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 5
AX099933
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            D<sub>P</sub>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                     205
                                                                            181
                                                                                                                           145
                                                                                                                                                                     121
                                                                                                                                                                                                                 85
                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                          25
                                                                                                                                                                                                                                                                                                                                                                                              904;
                                                                                                                                                                                                                                                                                                                                                    ь
ĠĀĊĀĀĀĠŦĠŦŦĀĀŦŦĀĊĀĠĀĠĊŦĊĀŦĊĊĀĠĊĀŦŦĊĀĠĊĠĀĀĀĊĀŦĀĀĠĠŦŦĠĀĊĀŦŦĠĀŦ
                                961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            901
                                                                                                                 CACATTITGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180
                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                        CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                             AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Protein phosphatase and kinase proteins
Patent: WO 0120004-A 15 22-MAR-2001;
Incyte Genomics, Inc. (US)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Yue,H., Tang,Y.T., Bandman,O., Hillman,J.L., Azimzai,Y. and Lu,D.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        781 CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                        Aregeceáreakeareakirekeakerekakirekerekeakeakerikekekekekeakak
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                   ATGGCCCATGAGATGGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AX099933.1 GI:13538943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AX099933
Sequence 15 from Patent
AX099933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ahdaddatiddacardictittadatidaadcttacadatttigtidaaadaaaaaaadaccttact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ccereerreer contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     arccccaagrcrcarrrccracarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arccarages arcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Homo sapiens"
/mol_type="unassigned DNA"
/db xref="taxon:9606"
/note="Incyte ID NO: 1234795CB1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     906
                                                                                                                                                                                                                                                                                                                                                                                                        99.6%;
                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                        Score 902.8; DB 6;
Pred. No. 4.6e-267;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2118 bp
WO0120004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA
                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                Length 2118;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Baughn, M.R.,
                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PAT
```

02-APR-2001

840

840 780 780 720 720 660 660

900 900

Gaps

0

264

204

120 144

84 60

ő 뫄 Ş В Ş 뭐 Ś В Ş ρb Ś Б Ś 밁 Ś В δ В Ś

```
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                              RESULT 6
AX180875
LOCUS
                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ફ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ફ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       음 중 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ક
             ORIGIN
                                                                                                                                          REFERENCE
                                                                     EATURES
                                                                                           JOURNAL
                                                                                                       TITLE
                                                                                                                             AUTHORS
                                                         source
                                                                                                                                                                                                                                                                                                                              901
                                                                                                                                                                                                                                                                                                                                                       865
                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                          781
                                                                                                                                                                                                                                                                                                                                                                                                                                                 745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                      Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                         Plowman.G.D., Martinez,R., Whyte,D.,
Hill.R.J. and Flanagan,P.
Hill.R.J. and Flanagan,P.
Mammalian protein phosphatasees
Patent: WO 0146394-A 2 28-JUN-2001;
                                                                                                                                                                        Homo sapiens (human)
Homo sapiens
                                                                                                                                                                                                             Sequence 2 from AX180875 AX180875.1 GI:1
                                                                                                                                                                                                                                               AX180875
                                                                                                                                                                                                                                                                                                                                CAGACT
                                                                                                                                                                                                                                                                                                                                                                   ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                  CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGCAGAATGGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTGCAGGTGGGTTTGCTGAGGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGACT
                                                                                                                                                                                                                                                                                                                                                       ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                     CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                        930
                                                                                                                                                                                                                                                                                                                                906
                    /organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"
                                                                   Location/Qualifiers
                                                                                                                                                                                                               GI:15132703
                                                                                                                                                                                                                               2732 bp
Patent WO0146394.
                                                                                                                                                                                                                                               DNA
                                                                                                                            Manning, G.,
                                                                                                                                                                                                                                               linear
                                                                                                                             Sudarsanam, S.,
                                                                                                                                                                                                                                                PAT
                                                                                                                                                                                                                                               06-AUG-2001
                                                                                                                                                                                                                                                                                                                                                       924
                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                     864
                                                                                                                                                                                                                                                                                                                                                                                                                           840
                                                                                                                                                                                                                                                                                                                                                                                                                                                 804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                744
RESULT 7
AX278461
LOCUS
DEFINITION
                                                                                                           뫄
                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                      문
                                                                                     S
                                                                                                                                  S
                                                                                                                                                        망
                                                                                                                                                                             5
                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 904; Conserv
                                                                                                                                                                                                                                                          1198
                                                                                                                                                                                                                                                                                                                                                       1078
                                                                                                                                                                1318
                                                                                                                                                                                                                                                                                                        1138
                                                                                                                                                                                                                                                                                                                                                                                                    1018
                                                                                                                  1378
                                                                                                                                                                                                              1258
                                                                                           901
                                                                                                                                          841
                                                                                                                                                                                      781
                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                 958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             904;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
AX278461
Sequence 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         بـــ
                                                                                                                                                                                                                                                                      CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                      ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                    CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC
                                                                                                                                                                             CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATC
                                                                                                                                                                                                                              CTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCACCATCGCTATCGCCTACATCATC
                                                                                                                                                                                                                                                                                                                                                       CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                     CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                      CAGACT
                                                                                            CAGACT
                                                                                                                  ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                          ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                           906
  from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99.6%;
 3059 bp
Patent WO0177340.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 902.8; DB 6;
Pred. No. 4.8e-267;
0; Mismatches 2;
             DNA
              linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2732;
             PAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
               02-NOV-2001
                                                                                                                    1437
                                                                                                                                                                1377
                                                                                                                                                                                                                                                                                                                                 660
                                                                                                                                                                                                                                                                                                                                                                                                     1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                    1017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                           900
                                                                                                                                                                                        840
                                                                                                                                                                                                               1317
                                                                                                                                                                                                                                     780
                                                                                                                                                                                                                                                            1257
                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                           1197
                                                                                                                                                                                                                                                                                                                                                        1137
                                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
```

SOURCE

780

846 720 786 660 726 600 666

906

966

```
Query Match
Best Local Similarity 99.8
904; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                      421
                                                                                                                                                                                                                                                    487
                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                        427
                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                       ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                  a crenadrice de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition
                                                                                                                                                                                                                          CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGT
                                                                                                                                                                                                                                              CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                             GÁCTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                        GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAGAGGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                 réchárchághhagartórhagrithacahrchhhagcrócchhaghrartagccrórcrórcrórtóh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ĠŔĊĀĀĀĠŦĠŦŦĀĀŦŦĀĊĀĠĀĠĊŦĊĀŦĊĊĀĠĊĀŦŦĊĀĠĊĠĀĀĀĊĀŦĀĀĠĠŦŦĠĀĊĀŦŦĠĀŢ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ĊĀĊĀTŦŦŤĠĠĀĀĠĊĊĀŦŦĀĀŦĀŦĊĀĀĊŦĠĊŦĊĊĀĀĠĊŦŦĀŤĠĀĀĠĊĠĀĀĠĠŦŦĠĊĀĀĊĀĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGTGGAACGGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCCGCCATTTGTGGAATACAATACATTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGGCCCATGAGATGATTGGAAACTCAAATTGTTACTGAGAGGTTGGTGGCTGCTGCTGGAA 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGGCCCATGAGATGGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Identification of a dual specificity phosphatase: dusp-10 Patent: WO 0177340-A 1 18-OCT-2001; MERCK PATENT GmbH (DE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AX278461
AX278461.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /protein_id="CAD10545.1"
/protein_id="CAD10545.1"
/db_xref="rg1:16605916"
/db_xref="rg1:16605916"
/db_xref="rg1:16605916"
/db_xref="rg1:16605916"
/db_xref="rg1:16605916"
/db_xref="rg1:16605916"
/db_xref="rg1:16205916"
/db_xref="rg1:16205916"
/db_xref="rg1:16205916"
/translation="rg1:16205916"
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:16205917
/translation="rg1:162059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="unnamed protein product"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /mol_type="unassigned
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GI:16605915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 902.8; DB 6;
Pred. No. 4.9e-267;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA
                                                                                                                                                                                                      TTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 3059;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                 486
                                                                                  606
                                                                                                                                              480
                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                    426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          246
                                 JOURNAL
MEDLINE
PUBMED
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 8
BC042101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; CE 1 (bases 1 to 3284)

RS Strausberg, R.L., Feingold, E.A., Grouse, L.H., Derge, J.G., Klausner, R.D., Collins, F.S., Wagner, L., Shenmen, C.M., Schuler, G.D., Altechul, S.F., Zeeberg, B., Buetow, K.H., Schaefer, C.F., Bhat, N.K., Diatchenko, L., Marusina, K., Farmer, A.A., Rubin, G.M., Hong, L., Stapleton, M., Soares, M.B., Bonaldo, M.F., Casavant, T.L., Carminci, P., Prange, C., Raha, S.S., Loquellano, N.A., Peters, G.J., Worley, K.C., Hale, S., Garcia, A.M., Gay, L.J., Hulyk, S.M., Worley, K.C., Hale, S., Garcia, A.M., Gay, L.J., Hulyk, S.M., Worley, K.C., Hale, S., Garcia, A.M., Gay, L.J., Hulyk, S.M., Sanchez, A., Whiting, M., Madan, A., Rodrigues, S., Villalon, D.K., Muzny, D.M., Sodergren, E.J., Lu, X., Gibbs, R.A., Sanchez, A., Whiting, M., Madan, A., Rodrigues, S., Sanchez, A., Whiting, M., Madan, A., Young, A.C., Shevchenko, Y., Butterfield, Y.S., Krzywinski, M.I., Skalska, U., Smailus, D.E., Butterfield, Y.S., Krzywinski, M.I., Skalska, U., Smailus, D.E., Charettion and initial analysis of more than 15,000 full-length proc. Natl. Acad. Sci. U.S.A. 99 (26), 16899-16903 (2002)
                   Direct Submission
Submitted (23-DEC-2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1027 CAGACT 1032
                                                                               Strausberg, R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      901
                                                                                                                                                        2477932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           841 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BC042.101 3284 bp mRNA line Homo sapiens dual specificity phosphatase 16, MGC:50665 IMAGE:4400399), complete cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                             (bases 1 to 3284)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ĊŦĀĠŦĠĊĀĊŦĠŦŦŶĀĠĊŤĠĠĠĀŤĊŤĊĊĊĠĊŤĊĊĠĊĊĀĊĊĀŤĊĠĊŶĀŤĊĠĊĊŦĀĊĀŤĊĀŤĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ccereerree e cereerre e cereerre e cereerre e cereerre e cereerre e cereerre e cereerre e cereerre e cereerre e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ĊĠĀĀŤĪĊŦŤĊĊĊĀĀĪĊŦŤĪĀŤĊŦŤſĠĠĊŦĠĊĊĀĠĊĠĀĠĀŤĠŤĊĊŤĊĀĀĊĀĀĠĠĀĠĊŦĠĀŢĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
National Institutes of Health,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRI 07-OCT-2003
(cDNA clone
```

Ś 밁 Ś 밁 Ś 밁 Ś В Ş Ъ Ś В Ś 밁 δ

Mammalian

```
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                           ORIGIN
                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REMARK
                                                                                  Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sg
                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  воитсе
                                                              904;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Clone distribution: MGC clone distribution information can be for through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov Series: IRAK Plate: 88 Row: a Column: 17 This clone was selected for full length sequencing because it passed the following selection criteria: GenomeScan gene prediction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gene Collection (MGC), Cancer Genomics Office, National Cancer Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590, VIH-MGC Project URL: http://mgc.nci.nih.gov Contact: MGC help desk Email: cgapbs-r@mail.nih.gov Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Sequencing Group at the Stanford Human Center, Stanford University School of Medicine, Stanford,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Dickson, M.,
R. M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Web site:
    ATGGCCCATGAGATGGTTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                   /translation="MAHEMIGTQIVTERLVALLESGTEKVILIDSRPFVEYNTSHILE AININGSKLMKKRILQOKVLITELIQHSAKHKVIDIDGSQKVVYYDOSSQDVASLSSDC FLTVLLKKLEKSFNSWHILAGGFAEFSKGFPGLCEGKSTLVPTCISQPCLFVANIGET RILPNLYLGCORDVLNKELMQQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEK ILPNLDKSVDFIEKAKASNGCYLVHCLAGISRSATIAIAYIMKRWDMSLDEAYRFVKE KRPTISPNNFLQOLLDYEKKIKNQTGASGPKSKLLHLEKPNEPVPAVEGGQKSE TPLSPPCADSATSEAAGQRPVHPASVESVQPSILEDSPLVQALSGLHLSADRLEDSNK LKRSFSLDIKSVSYSASMAASLHGFSSSEDALEYYKPSTTLDGTNKLCQFSPVQELSE QTPETSPDKEEASIPKCLQTAPPSDSQSKRLHSVRTSSGTAQRSILESPLHKSGSVED NYHTSELFGLSTSQQHLTKSAGLGLKGWHSDILAPQTSTPSLTSSWYFATESSHFYSA SAIYGGSASYSAYSCSQLPTCGDQVYSVRRRQKFSDRADSRRSWHEESPFEKQFKRRS CQMEFGESIMSENRSREELGKVGSQSSFSGSMEIIEVS"
                                                                                                                                                         tyrosine-specific
region"
/db_xref="CDD:pfar
                                                                                                                                                                                                /note="DSPC; Region: Dual specificity phosphatase, catalytic domain. Ser/Thr and Tyr protein phosphatases. The enzyme's tertiary fold is highly similar to that of tyrosine-specific phosphatases, except for a 'recognition'
                                                                                                                                                                                                                                                                                                                                     380.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /product="DUSP16 protein"
/protein_id="AAH42101.1"
/db_xref="GI:27469789"
/db_xref="LocusID:80824"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /db_xref="taxon:9606"
/clone="MGC:50665 IMAGE:4400399"
/tissue_type="Duodenum, adenocaro
/clone_Tib="NIH_MGC 88"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="synonyms: KIAA1700,
/db_xref="LocusID:80824"
/db_xref="MIM:607175"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              http://www-shgc.stanford.edu
(Dickson, Mark) mcd@paxil.stanford.edu
M., Schmutz, J., Grimwood, J., Rodriquez,
                                                                                                                                                                                                                                                                                               db_xref="CDD:smart00450"
                                                                                                                                                                                                                                                                                                                   note="RHOD; Region: Rhodanese Homology Domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="DUSP16"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          note="Vector: pCMV-SPORT6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                           _xref="CDD:pfam00782"
                                                                                  99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .2320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            type="mRNA"
                                                              0,
                                                              Score 902.8; DB 9;
Pred. No. 4.9e-267;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     adenocarcinoma"
                                                                                                     Length
                                                                Indels
                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  and
                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Myers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           found
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           94305
                                                              ٥,
                                                                RESULT 9
AX441210
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
                            SOURCE
ORGANISM
                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                            문
                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       日
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     맑
                                                                                                                                                                                                                                          1232
                                                                                                                                                                                                                                                                                                                     1172
                                                                                                                                                                                                                                                                                                                                                                                                1112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1052
                                                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                                                                                                                           841
                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       332 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                Sequence 1 1
AX441210
AX441210.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
Homo sapiens (human)
Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                         AX441210
                                                                                                                                                                                                                                                                               CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                          CAGACT
                                                                                                                                                                                                                                                                                                                     ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                           ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGCAGAATGGGATTGGTTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1237
                                                                                                                           from
                                                                                    GI:21665766
                                                                                                                       Patent W00226997
                                                                                                                                           đđ
                                                                                                                                             DNA
                                                                                                                                             linear
                                                                                                                                               PAT 28-JUN-2002
```

871

540

480 751 420 691 360 631 300 571

1231

1171

840

900

1111

1051

720 991 660 931 600

```
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                                                                                                1222
                                                                                                                                                                                                                                                                                                                                                                                                                                                            1162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1042
                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     562
                               CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          904;
                                                                                                                                                                                                                                                                                   CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                            ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG 1221
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ĊĠĀĀŤŦĊŤŤĊĊĊĀĀŤĊŤŤŤĀŤĊŤŤĠĠĊŤĠĊĊĀĠĊĠĀĠĀŤĠŤĊĊŤĊĀĀĊĀĀĠĠĀĠĊŤĠĀŤĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACTCTAGTCCTACCTGCATTTCTCAGCCTTGCTTACCTGTGCCAACATTGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         crrecacinederricies de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACTGTTTCTCACTGTACTTCTGGGTAAACTGGAGAGAGGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              réchárchághhágáríghhágárthacahrchahágchcchhághrágarthacatchchchtch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Luche, R.M. and Wei, B.
Dsp-16 dual-specificity phosphatase
Patent: WO 0226997-A 1 04-APR-2002;
Ceptyr, Inc. (US)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ĠĀĊĀĀĀĠŦĠŦŦĀĀŦŦĀĊĀĠĀĠĊŦĊĀŦĊĊĀĠĊĀŦŦĊĀĠĊĠĀĀĀĊĀŦĀĀĠĠŦŦĠĀĊĀŦŦĠĀŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACAAAGTGTTAATTACAGAGGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cáca rritiga a decatria a ratica a crecteca a estra de desendo estra de desendo estra de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la como esta de la co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGGCCCATGAGATGGTTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Homo sapiens"
/mol_type="unassigned DN
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1. .3496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 902.8; DB 6;
Pred. No. 5e-267;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 3496;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                           1341
                                                                                                                                                                                                                                                                                   1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        621
                                                뫄
                                                                                                          Ş
                                                                                                                                                                                                                                                                                                     ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
MEDLINE
PUBMED
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                            Matches
                                                                                                                                                                                             Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 10
AB052156
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
564 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                  904;
                                  ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          841
                                                                                                                                                           Conservative
```

Ś Б Ś В Ş В Ś Ъ Ś 뮍 Ş 밁 Ş В Ś 밁 Ş Д Ş 맑 Ś В Ş 뮍 δ 밁 5

Ş

61 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120

0;

Indels

0;

Gaps

```
Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1462 CAGACT 1467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 (bases 1 to 3521)

Masuda, K., Shima, H. and Kikuchi, K.

Direct Submitssion

Submitted (05-DEC-2000) Kouhei Masuda, Institute for Genetic Medicine, Division of Biochemical Oncology and Immunology; kita-ku (E-mail:kou@imm.hokudai.ac.jp, Tel:81-11-706-5536,

Fax:81-11-707-6839)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Masuda,K., Shima,H., Watanabe,M. and Kikuchi,K. MKP-7, a novel mitogen-activated protein kinase functions as a shuttle protein 5. Biol. Chem. 276 (42), 39002-39011 (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (human)
Homo sapiens
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1148989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AB052156
Homo sapiens MKP-7 mRNA
AB052156
AB052156.1 GI:13548676
                                                                                                                                                                                                    /codo_start=1
/codo_start=1
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/product
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC 1461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                RRSCOMEFGESIMSENRSREELGKVGSQSSFSGSMEIIEVS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               'gene="MKP-7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gene="MKP-7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 906
                                                             99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               _line="Jurkat"
Score 902.8; DB 9;
Pred. No. 5e-267;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3521 bp mRNA linear PRI 18-OC for MAPK phosphatase-7, complete cds.
                                                                          Length 3521;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   phosphatase,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRI 18-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       900
```

```
REFERENCE
AUTHORS
                                                         ACCESSION
VERSION
KEYWORDS
                                                                                                 RESULT 11
AX260340
LOCUS
                                                                                                                                                                                                                                                                                                                         8
                                       SOURCE
ORGANISM
                                                                                                                                                                  ð
                                                                                                                                                                                                    & 유
                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                           ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  중 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               중 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                       DEFINITION
                                                                                                                                                 1464
                                                                                                                                                                                                                            1344
                                                                                                                                                                                                                                                                                                           1224
                                                                                                                                                                                                                                                                                                                                                 1164
                                                                                                                                                                                                                                                                                                                                                                                         1104
                                                                                                                                                                                                                                                                                                                                                                                                                              1044
                                                                                                                                                                                                                                                                     1284
                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                    901
                                                                                                                                                                                                          841
                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                    AX260340
Sequence 1 from I
AX260340
AX260340.1 GI:10
                                       Homo
Meyers, R.A.
                             Eukaryota;
                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                 CAGACT
                                                                                                                                                                    CAGACT
                                                                                                                                                                                                 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                             CTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                               CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCCTATCGCCTACATCATC
                                                                                                                                                                                                                                                                                                           CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                      CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAAAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                            ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                       CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                              ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTTGCAGGTGGGTTTGCTGAAGTTCTCTCTCTTGTTTCCCTGGCCTCTGTGAAGGAAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTOTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                       варіепя
                                                sapiens
                                                                                                                                                1469
                                                                                                                                                                     906
                                                                     GI:16509303
                                                (human)
                                                                                      3544 bp
Patent WO0173059.
                                                                                                 DNA
                                                                                                 PAT
                                                                                                 26-OCT-2001
                                                                                                                                                                                       1463
                                                                                                                                                                                                                             1403
                                                                                                                                                                                                                                                                     1343
                                                                                                                                                                                                                                                                                                                                                                                         1163
                                                                                                                                                                                                                                                                                                                                                                                                                               1103
                                                                                                                                                                                                          900
                                                                                                                                                                                                                                                                                                           1283
                                                                                                                                                                                                                                                                                                                                                 1223
                                                                                                                                                                                                                                                                                                                                                                      660
                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                                                                                        780
                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                            600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             683
                                                                                                                                                                                                                                                                                                                                                                                    Ś
                        5
                                                뮍
                                                             Ş
                                                                                 吊
                                                                                                     5
                                                                                                                           밁
                                                                                                                                           S
                                                                                                                                                              밁
                                                                                                                                                                                  Ś
                                                                                                                                                                                                          밁
                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                     맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                       1009
                                                 1069
                                                                    481
                                                                                                          421
                                                                                                                            949
                                                                                                                                                361
                                                                                                                                                                   889
                                                                                                                                                                                      301
                                                                                                                                                                                                          829
                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                 769
                                                                                                                                                                                                                                                                                       709
                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                              649
                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             therefor
                           CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                         CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                  ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                       ACTOTAGTOCOTACOTGCATTTOTCAGCOTTGCTTACOTGTTGCCAACATTGGGCCAACC
                                                                                                                              CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                  CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
```

```
Query Match
Best Local Similarity
Matches 904; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                589 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Patent: WO 0173059-A 1 04-OC Millennium Pharmaceuticals,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   38692 and 21117: dual specificity phosphatase molecules
                                                                                                                                                                                                                                                                                                                       GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                             CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /db xref="REMELCAD10218"
//db xref="REMELCAD10218"
//translation="MAHEMIGTQI VTERLVALLESGTERVILLIDSRPFVEYNTSHILE
//translation="MAHEMIGTQI VTERLVALLESGTERVILLIDSRPFVEYNTSHILE
//translation="MAHEMIGTQI VTERLVALLESGTERVILLIDSRPFVEYNTSHILE
//translation="MAHEMIGTQI VTERLVALLESGTERVILLIDSRPFVEYNALISPT
RILPNLYLGCQRDVLNKELMQQNGIGYVLNASNTCPKPDFI PESHFLRVPVNDSFCEK
ILPNLYLGCQRDVLNKELMQQNGIGYVLNASNTCPKPDFI PESHFLRVPVNDSFCEK
ILPNLYLGCQRDVLNKELMQQNGIGYVLNASNTCPKPDFI PESHFLRVPVNDSFCEK
ILPNLYLGCQRDVLNKELMQQNGIGYVLNASNTCPKPDFI PESHFLRVPVNDSFCEK
ILPNLYGCQRDVLNELMQQNGIGYVLNASNTCPKPDFI PESHFLRVPVNDSGGQKSE
ILPNLYGCQRDVLNELMQQNGIGYVLNASNTIABFI PESHFLRVPNSEGGQKSE
IPLSPCADSATSEAAGQRPVHPASVPSVPSVQPSLLEDSPLVQALSGLHLSADRLED
SNKLKRSFSLDIKSVSSASNAASLHGPSSSEDALEYYKPSTTLDGTNKLCQFSPVQE
SNKLKRSFSLDIKSVSSASNAASLHGPSSSEDALEYYKPSTTLDGTNKLCQFSPVQE
SNKLKRSFSLDIKSVSSASNAASLHGPSSSEDALEYYKPSTTLDGTNKLCQFSPVQE
SNKLKRSFSLDIKSVSSASNAASLHGPSSSEDALEYYKPSTTLDGTNKLCQFSPVQE
SNSDNYHTSFLPGLSTSQQHLTKSAGLGLKGMHSDILAPQTSTBSHTSSMFFATESSHF
YSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRRQKPSDRADSRRSWHEESPFEKQFK
RRSCQMEFGESIMSENRSREELGKVGSQSSFSGSMEIIEVS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO 0173059-A 1 04-OCT-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"
589. .2586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /proteIn_id="CAD10218.1"
/db_xref="GI:16509304"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                note="unnamed protein product"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 902.8; DB
Pred. No. 5e-267;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (US)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                               768
                        420
                                                                          948
                                                                                                                              360
                                                                                                                                                                                   888
                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                         828
                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
```

1068

480

540

-	CDS	gene	REFERENCE AUTHORS TITLE JOURNAL FEATURES SOUICE	ORGANISM REFERENCE AUTHORS TITLE JOURNAL PUBMED	RESULT 12 AF506796 LOCUS DEFINITION ACCESSION VERSION KEYWORDS SOURCE	DB QQ B QQ B QQ B QQ B QQ
/gene="DUSP16" /EC_number="3.1.3.48" /EC_number="3.1.3.16" /EC_number="3.1.3.16" /EC_number="3.1.3.16" /codon_start=1 /product="dual specificity phosphatase 16" /protein_id="AANT5120.1" /protein_id="AANT5120.1" /protein_id="AANT5120.1" /translation="MAHEMIGTQIVTERLIVALLESGTEKVILLIDSRPFVEYNTSHILE AINLNCSKLMKRRLOOKVILTELIOHSAKHKVDIDCSQKVVVVDOSSQDVASLESSDC RILPNLYLGKLEKSENSVHLLAGGFAEFSRCFFGLGEGKSTLVPTCTSQPCILPVANIGET RILPNLYLGCQRDVLNKELMQQNGIGYVLNASNTCDKDBTPESHFIRVPVNDSFGEK ILPNLYLGCGRDVLNKELMQQNGIGYVLNASNTCDKDBTPESHFIRVPVNDSFCEK ILPNLYLGCGRDVLNKELMQQNGIGYVLNASNTCDKDBTPESHFIRVPVNDSFCEK	/yerne="DUSP16" /note="Rynonym: MKP7" 6332630	/organism="Homo sapiens" /mol_type="makm, 19606" /db_xret="taxon:9606" /chromosome="12" /map="12p13-p12" /tissue_type="bone marrow" 13566		M Homo Eukar Mamma 1 (b Hoorn MapK chrom Oncog	AF506796 N Homo sapiens complete cds. AF506796 AF506796.1 (601 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTTGTGAATGACAGCTTTTGTGAGAAAATTTTG
D Q D Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q	P &	Oy Oy	Q D Q D Q	0	рь Оу Оу	ORIGIN Quer Best Matci Oy Db Db
1293 CCGTGGTTGG 721 CTAGTGCACT 1353 CTAGTGCACT 781 AAGAGGATGG 1413 AAGAGGATGG 1413 AAGAGGATGG 1473 ATATCTCCAAA		1173 CAGCAGAATO 1 1173 CAGCAGAATO 601 ATCCCCGAGT 1233 ATCCCCGAGT	421 ACTCTAGTC 1053 ACTCTAGTC 481 CGAATTCTTT 1113 CGAATTCTTT 541 CAGGGGAATC		753 CACATTTI 181 GACAAAGT 181 GACAAAGT 1 813 GACAAAGT 241 TGCAGTCAA 873 TGCAGTCAC	RIGIN Query Match Best Local Similari Matches 904; Cons. Y 1 ATGGCCC 633 ATGGCGA (61 AGTGGAA 693 AGTGGAA 121 CACATTT

KRPTISPNFNFLGQLLDYEKKIKNQTGASGPKSKLKLLHLEKFNEPVPAVSEGGQKSE TPLSFPCADSATSEAAGQRPVHPASVPSVPSVQPSLLEDSPLVQALSGLHLSADRLED SNKLKRSFSLDIKSVSYSASMAASLHGFSSSEDALEYYKPSTTLDGTNKLCQFSPVQE LSEQTPETSPDKEEASIPKKLQTAFPSDSQSKRLHSVRTSSGGTAQRSLLSPLHRSGG VEDNYHTSFLFGLSTSQOHLTKSAGLGLKGWHSDILAPQTGTPSLTSSWYFATESSHF YSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRRQKPSDRADSRRSWHEESPFEKQFK RRSCQMEFGESIMSENRSREELGKVGSQSSFSGSMEIIEVS"

TGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG VACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC 900 PICTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG cecraecrecarreteaecrrecraecrraecrerrecaacarrecaacarre JACATGTCTTTÁGÁTGAAGCTTÁCAGATTTGTGAAAGAAAAAAAGACCTACT FTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG GGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT CCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACACTTGGGCCAACC rederriecreaerrerererrerrerecerses redereres de la reconstruction de la reconstruction de la reconstruction de recreactional recreases and considerate and construction of the co TCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG 360 retraatracaeaectearceaecarteaecaacaanacaraaeetreacaricar TGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG icogaaaaagroctoctaarroaragecogecarrrorogaaaracaaracaree \CGGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATAACATCC 120 žardadardatrogaacticaa atrotracto ada dotrodrodrodrodrodra a _ATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60 servative idaaddrieradririacdarcaaadcreedaadargridectererererea redanéccarraararcaacrecrecaaecrrareaaecaaecar 99.6%; 0; Score 902.8; DB 9; Pred. No. 5e-267; 0; Mismatches 2; Length Indels 3566; 0, Gaps 1472 1412 780 1352 840 720 1292 600 660 1232 480 1112 992 932 872 692 812 180 752 0

δ

901

CAGACT

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 13
AX374994
                                                                                                       र्
                                                                                                                                    멍
                                                                                                                                                                 ક
                                                                                                                                                                                                       밁
                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                ঠ
                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                            ક
                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       吊
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  닭
                     밁
                                                    ঠ
                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 904; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bource
                             1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1533
                                                                                                                                                                                                                                                                                                                                                                                                                                               598
541
                                                                                                                  421
                                                                                                                                               868
                                                                                                                                                                           361
                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                   778
                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                           181 GACAAAGTGTTAATTACAGAGCTCATCCAGCGATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AX374994
Sequence
AX374994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Protein phosphatases
Patent: WO 0210363-A 17 07-FEB-2002;
Incyte Genomics, Inc. (US)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tang,Y.T., Elliott,V.S., Ramkumar,J., Yao,M.G., Burford,N., Wang,Y.E., Stewart,E.A., Gandhi,A.R., Patterson,C., Lee,E.A., Hafalla,A.J., Lu,D.A., Tribouley,C.M., Griffin,J.A., Baughn,M.R., Yue,H., Warren,B.A., Nguyen,D.B. and Walia,N.K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AX374994.1 GI:19169826
                                                                                                                                                                                                                                                                                                                                                                                                   CACATTITGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                           CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                       ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                             CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                              CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGGAAAATCC
                                                                                                                                                                                                     GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAGAGGGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                     GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                       GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                     CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGGCCCATGAGATGATTGGAAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGACT
                           CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                      ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17 from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="Incyte ID No: 7480570CB1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .3766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99.6%;
                                                                                                                                                                                                                                                                 Patent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 902.8; DB Pred. No. 5e-267; O; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3766 bp
WO0210363.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3766;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-MAR-2002
                           1077
                                                                                      1017
                                                         540
                                                                                                                  480
                                                                                                                                               957
                                                                                                                                                                            420
                                                                                                                                                                                                          897
                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                 837
                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                     717
                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                               657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          597
                                                                                                                                                                                                                                                                                                                            777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
```

```
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 14
BD171157
LOCUS
DEFINITION
ACCESSION
VERSION
VERSION
KEYWORDS
SOURCE
 밁
                 Ś
                                                   밁
                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                           ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                      Matches
                                                                                                                   Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                source
                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1078 CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
 244
                                                    184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         601
                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BD171157
Novel gene and pro
BD171157
BD171157.1 GI:278
WO 02052005-A/13.
                                                                                                                                                                                                                                       NAKAJIMA
OS Hom
PN WO
PD 041-
PF 20--
PR 22--
PR 05A
PC C12:
CC NOVV
FH Key
FT CDS
                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (Dases 1 to 4790)

Ohara,O., Nagase,T. and Nakajima,D.

Novel gene and protein encoded thereby
Patent: WO 02052005-A 13 04-JUL-2002;
RAZUSA DNA RESEARCH INSTITUTE,OSAMU OHARA,TAKAHIRO NAGASE, DAISUKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens (human)
                    AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                              ATGGCCCATGAGATGGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGACT
AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                    ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTAGTGCACTGTTTAGCTGGGATCTCCCCGCTCCGCCATCGCTATCGCCTACATCATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens (human)
WO 02052005-A/13
04-JUL-2002
20-DEC-2001 WO 2001JP011217
22-DEC-2000 JP 00P 389742
OSAMU OHARA, TAKAHIRO NAGASE, DAISUKE NAKAJIMA C12N15/12, C07K14/47
                                                                                                       Conservative
                                                                                                                                                                                                                                     Novel gene and protein encoded thereby 
Key Location/Qualifiers 
CDS (184). (2178).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       906
                                                                                                                                                                     /organism="Homo sapiens"
/mol_type="genomic DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GI:27876969
                                                                                                                   99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4790 bp DNA protein encoded thereby
                                                                                                       ٥,
                                                                                                                  Score 902.8; DB 6;
Pred. No. 5.2e-267;
                                                                                                        Mismatches
                                                                                                       Indels
                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PAT 17-JAN-2003
                                                                                                       0;
                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                       DAISUKE
                                                    243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1377
  303
                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1137
                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           660
```

유 D D δ д Ś В Ś

```
DEFINITION
ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1024
                                                                                                                                                                                                                                                                                                                                                              BD183422
Novel genes and proteins
BD183422
BD183422.1 GI:31875622
JP 200234549-A/135.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                Bukaryota; Metazoa; Chordata; Craniata; Mammalia; Eutheria; Primates; Catarrhini 1 (bases 1 to 4790)
Ohara, O., Nagase, T. and Nakajima, D. Novel genes and proteins encoded by the Patent: JP 2002345492-A 135 03-DEC-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                           Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   atátetecaááctteáattteetesseecaáctectssáctátsásáááááááttaásáat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   angaggariggacargrerriragargaagerracagarriggaaagaaaaaaaagaccracr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        crádridoácridrináderidddarerecederecedeciáceáreddriaredecriaeareare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      arccccaagrercarrrecrecererererera
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cadcadaardddarriddraadrgrightaaaardccaddcaaraccridriccaaadccrigacritr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGCAGAATGGGATTGGTTAATGTGTTAAATGCCAGCTATACCTGTCCAAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cgaafrictricccaarctritatetrigetrieccaecaagargrictricaacaaggagerigarg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a Crenadrece a de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della compositi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                errieckásárisásárirásáriskárireréresárisárirácertásácereristákásákakkiree
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ĠĀĊŦĠŦŦŦŔĊŦĊĀĊŦĠŦĀĊŦŦĊŦĠĠĠŦĀĀĀĊŦĠĠĀĠĀĠĀĠĊŦŦĊĀĀĊŦĠŦŦĊĀĊĊŦĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        réchérchéanhadriteinhertracearchahadertechhadarertecterererench
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACAAAGTGITAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ĠŔĊĀĀĀĠĪĠŦĪĀĀŦĪĀĊĀĠĀĠĊŦĊĀŦĊĊĀĠĊĀŦŤĊĀĠĊĠĀĀĀĊĀĪĀĀĠĠŦĪĠĀĊĀŤĪĠĀŢ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACATTITGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 encoded by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ďď
                                                                                                                                                                                                                       Craniata; V
Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA line
                                                                                                                                                                                                 Vertebrata; Euteleostomi;
ii; Hominidae; Homo.
                                                                                                                 genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          363
                                                                                   Ś
                                                                                                                                                  밁
                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB
B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Simi
Matches 904;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                  844
                                                                                   721
                                                                                                                                                                                                                199
                                                                                                                                                                                                                                                                                     784
                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                        724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            184
CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                      ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                             CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cdaarrerreceaarerrarerragerseceasceasceatereres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a crena driece de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della compositi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ctriechádriaddririderidadrirereredriridriridectaddecretadadadadadadarec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ĠĀĊŦĠŦŦŦĊŦĊĀĊŦĠŦĀĊŦŦĊŦĠĠŦĀĀĀĊŦĠĠĀĠĀĠĀĠĠĊŦŦĊĀĀĊŦĠŦŦĊĀĊĊŦĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KAZUSA DNA RESEARCH INSTITUTE
OS Homo sapiens (human)
PN JP 2002345492-A/135
PD 03-DEC-2002
PF 26-FEB-2002 JP 2002049009
PF 06-FEB-2002 JP 2002049009
PI OSAMU OHARA, TAKAHIRO NAGASE, DAISUKE NAKAJIMA
PC C12N15/09, COTX14/47/A6IX31/711, A6IX38/00, A6IX48/00, A6IP25/00,
PC A6IP25/14,
PC A6IP25/14,
PC A6IP25/14,
PC A6IP25/14,
PC A6IP25/14,
PC A6IP25/14,
PC Novel genes and proteins encoded by the gener Fit Takenson Proteins Proceedings of the General Proteins Proceded By the General Proteins Proceded By the General Proteins Proceded By the General Proteins Proceded By the General Proteins Proceded By the General Proteins Proceded By the General Proteins Proceded By the General Proteins Proceded By the General Proteins Proceded By the General Proteins Proceded By the General Proteins Proceded By the General Proteins Proceded By the General Proteins Proteins Proceded By the General Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Proteins Prote
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GĀČĀĀĀĠĪĠŦŦĀĀŦŦĀĊĀĠĀĠĊŦĊĀŦĊĊĀĠĊĀŦŦĊĀĠĊĠĀĀĀĊĀŦĀĀĠĠŦĪĠĀĊĀŦŦĠĀŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cá cá rtririge á a de central a recentral de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ę
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A61P25/14,
A61P25/18,A61P35/00,C12N15/00,A61K37/02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Homo sapiens"
/mol_type="genomic DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 902.8; |
Pred. No. 5.2e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ۰,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (184).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           . (2178).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .2e-267;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
```

363 180 120 243 60 Gaps

Key

REFERENCE AUTHORS TITLE JOURNAL

780 903 720 843 660 783 600

663 480 603 420 543 360 483 300 423

KEYWORDS SOURCE ORGANISM

RESULT 15 BD183422 LOCUS

밁 Ś 밁 5 В Ś В 8 멍 Ś В 8 밁 S 뮍 Ś В Ş 뮰 Ś

Sea	밁	8		\$	밁	ঠ	рь
rch cor							
mple:	1084	901	1024	841	964	781	904
Search completed: June 21, 2004, 23:40:22 Job time : 5706.52 secs	1084 CAGACT 1089	901 CAGACT 906	1024 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC 1083	841 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC 900	964 AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAAA	781 AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTTGTGAAAGAAA	904 CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG 963
			.083	00	.023	340)63

This Page Blank (uspto)

იი

O a

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Searched:
               a
                                                                                                                                                 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
 799.8
665.2
633
565.8
                                                                           Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nucleic search, using sw model
                                                                         Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-029-345A-108_COPY_538_1443
906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         June 21, 2004, 17:00:31 ; Search time 3586.84 Seconds (without alignments) 7542.898 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    27513289 seqs, 14931090276 residues
                                                                                                                                                                                                                                                                                                                                                                                            5:
6:
7:
8:
9:
110:
113:
113:
115:
 88.3
73.4
69.9
62.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               atggcccatgagatgattgg.....agaagattaagaaccagact 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                       em_esthum:*
em_esthu:*
em_esttp:*
em_esttp:*
em_esttp:*
em_estro:*
em_htc:*
gb_est1:*
gb_est3:*
gb_est4:*
gb_est4:*
em_estcm:*
em_gss_inv:*
em_gss_inv:*
em_gss_vrt:*
em_gss_mam:*
em_gss_mam:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        em_estba:*
                                                                           Length DB
 898
836
682
715
 13
12
14
                                                                           ä
 BQ721265
BI821804
BI816954
CF727177
                                                                                                                       SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            55026578
Description

E0721265 AGENCOURT

B1821804 603035883

B1816954 imageqc 1

CF727177 UI-M-HBO-
```

Ω

O

a

a O

4 20		A (4	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	80	7	σ	u
ū	240.0	200		276.6	279	290	293.6	295	318	322	23	327.6	ω	Ψ	w	49	52.	52.	56.	359.4	59.	64.	64.	73.	86.	90.	99.	04.	15.	22.	28.	ЗO.	43	82.	89.	35.	41.	44.		58.	59.
26.4	١:	١.	7			32.0			5	ŗ	ភ	٥.	٥.	7.	.7	œ	8	8	9	39.7	9	٠		٠	•	٠		•	٠		.7	7.	7.	ú	4.	9	9		60.9	۲.	1.
881	1 1 1	404	801	337	516	683	635	324	579	589	402	366	412	442	486	404	924	1148	421	494	494	2207	403	516	463	903	463	619	1060	516	512	946	-1	3325	862	595	602	650	769	656	639
14			4	14	29	12	10	13	10	14	29			14	10	10	14	12	10	13	13	11	5	29	10	12	10	29	12	29	10	12	13	11	13	10	10		13		14
CH266082	1 6	WA6143	3013	0629	1365	4252	7772	672	8236	v	9979	0294	8796	614	8	5	CA474739	0660	4688	BQ318155	1815	BC038231	BE004625	Y413		G482	58	83	BM546940	Y413	F815	-1			7	AW847426	AW847425	BF472046	U704	F53291	CF742387
CF 266082 AGENCOOK!		6143	3013	60629		94252	7772	729	8236	CB165612 BEQ603161	G499793 OST42180	02947	94 vw01d07.r	06149	PM3-CT02	BB816652 BB816652	CA474739 AGENCOURT	BM906608 AGENCOURT	BE946884 UI-M-BH3-	T04	RC21-CT0	Ното вар	CM2-BN01	Mus musc	QV0-CI02	BG482429 602526595	naf1	CG583869 OST226476	BM546940 AGENCOURT	AY413655 Homo sapi	BF815601 MR2-CI012	60328186	70376991	Mus	UI-M-E	RC1-CT02	RC1-CT02	UI-M-BH3	U704078 UI-M-	F532917 UI-M-GH	F742387 UI-

ALIGNMENTS

	JOURNAL COMMENT	AUTHORS TITLE	REFERENCE	SOURCE ORGANISM	ACCESSION VERSION KEYWORDS	RESULT 1 BQ721265 LOCUS DEFINITION
Email: cgapbs-r@mail.nih.gov Tissue Procurement: Dr. James R. Lupski cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Agencourt Bioscience Corporation Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov Plate: LLAM13599 row: 1 column: 08 High quality sequence stop: 669.	Unpublished (1999) Contact: Robert Strausberg, Ph.D.	NIH-MGC http://mgc.nci.nih.gov/. National Institutes of Health, Mammalian Gene Collection (MGC)	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 898)	Homo sapiens (human) Homo sapiens	EQ721265 BQ721265.1 GI:21860162 EST:	BQ721265 898 bp mRNA linear EST 16-JUL-200: AGENCOURT 8294508 Lupski sympathetic_trunk Homo sapiens cDNA clone IMAGE:6194455 5', mRNA sequence.

FEATURES

787

849 846 789

linear EST 04-OCT-2001 clone IMAGE:5176724 5',

```
Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뭕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뭣
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches 859
                                                                                                                                                       899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                         809
                                                                                                                                                                                                                                                                                                                                                            552
                                                                                                                                                                                                                                                                                                                                                                                                                           548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   428 TCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACCCGAATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   308 TTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       132 rédahágéchárthaltharchactroctrochagertharchagedhagertrochachaghachahág
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             128
                                                       TGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTTCTTAGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   859;
                                                                                                                                                                      AGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAG-AAATTTTGCCGTGGT
                                                                                                                                                                                                               AGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTGCCGTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12
                                                                                                                                                                                                                                                                                                        ATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAAGCCTGACTTTATCCCCG
                                                                                                                                                                                                                                                                                                                                                 ATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCG 607
                                                                                                                                                                                                                                                                                                                                                                                                                                             troccaarcittateitigecigecagegagateitetetaacaagaagiagitgatgeageaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCCCAATCTTTATCTTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGA 547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               récerácerde arrete a de certa de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión de la recensión 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     drádártrádcháagríteretektrátritetetrádetetektátákadakákatetektretikg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rrcrcácrerácricoggeralacioggagasagagerregagereres en receigerregage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAATTGCAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TĠŦŦĀĀŦŦĀĊĀĠĀĠĊŦĊĀŦĊĊĀĠĊĀŦŦĊĀĠĊĠĀĀĀĊĀŦĀĀĠĠŦŤĠĀĊĀŦŦĠĀŦŦĠĊĀĠŦĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAG 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCCCACATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGAĞATGATTGGAĞÇTCAĞAĞTTGTTACTĞAĞĞĞĞTTĞĞTĞĞÇTÇTĞĞĞAĞĞTĞĞĞA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            c GGAAAAAGT GCTAATT GATAGC CGGC CATTT GTGGAATACATT CCCACATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAAAGTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /clone_lib="Lupski sympathetic trunk"
/note="Vector: pCMV-SPORT6 (Life Technologies); Site_1:
NoLI, Site_2: SalI; cDNA made by oligo-dT priming.
Directionally cloned using the following adaptors:
5'-TCGACCCACGCGTCG-3' and
5'-GACTAGTTCTAGATCGCAGCGGCCGCCT(15)-3'. Size selected >
1 kb for average insert length 1.9 kb. This is a primary
Technologies and donated by J. Lupski, M.D./Ph.D. (Baylor Technologies."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /tissue_type="sympathetic trunk"
/dev_stage="adult, 16 yr"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     clone="IMAGE: 6194455"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              88.3%;
96.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 799.8; DB 13;
Pred. No. 6.5e-228;
0; Mismatches 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 898;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        primary
                                                                                                    727
                                                                                                                                                                                                                                                                                                        611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (Baylor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              71
                                                   밁
                                                                                                           Ś
                                                                                                                                                                      D
G
                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORIGIN
                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 747; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 2
BI821804
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뭉
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뮰
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                               207
                                                                                                                                                                                                                                                    147
                                            61
                                                                                                                                                                                                                                                                                                            747;
                                                                                                                                                                              ш
                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 836)

NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)

Contact: Robert Strausberg, Ph.D.

Email: cgapbs-r@mail.nih.gov

Tissue Procurement: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Segmenting by: The I.M.A.G.E. Consortium (LLNL)
ccadcatrcadcigaaacataaaggrigacatrda-rdcadrcadaaggriggragtratacga
                                                                                                                                                                              CTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCAT
                                                                                                                                 ctrecticca a detri a trade de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition del
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    found through the I.M.A.G.E. Consortium/LLNL http://image.llnl.gov Plate: LLAM11440 row: f column: 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      847 CCAAACTT: ---CAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAA 890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BI821804.1 GI:15933354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B1821804 836
603035883F1 NIH_MGC_115 Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BI82180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                /clone lib="WIH MGC 115"
/clone lib="WIH MGC 115"
/note="Corgan: pooled brain, lung, testis; Vector:
pCMV-SPORT6; Site 1: NotI; Site 2: EcoRV (destroyed); RNA
source anonymous pool of 6 male brains, age range 23-27; 1
oligo-dr primed and directionally cloned (EcoRV site is
destroyed upon cloning). Average insert size 1.8 kb,
enriched for full-length clones and was constructed by C.
O21. Note: this is a NIH_MGC Library."
                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCAAAACTTCAAATTTTCTTGGGCCAACTCCCTGGCATTATGAAAAA 896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            redacareterritada igaaacitracada itregegaaagaaaaacacitacita itater
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGACATGTC-TTTAGATGAAGCTTACAGATTTGTGAAAGAAAAAAAGACCTACTATATCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATCAAGAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   quality sequence stop: Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a Cristria de crede de la crede de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition de la composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della compositio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /clone="IMAGE:5176724"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1. .836
                                                                                                                                                                                                                                                                                                                              73.4%;
98.0%;
                                                                                                                                                                                                                                                                                                 0,
                                                                                                                                                                                                                                                                                  Score 665.2; DB 12
Pred. No. 1.3e-187;
0; Mismatches 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        805.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sapiens cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          đđ
                                                                                                                                                                                                                                                                                                                                                        DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          mRNA
                                                                                                                                                                                                                                                                                     8
```

Ś 뮍 Ś БР Ş

> Indels Length 836;

7;

Gaps

Ü

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                          SOURCE
ORGANISM
                                                                                                                 JOURNAL COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              음 중
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ર્ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ફ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                     ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                          RESULT 3
BI816954/c
                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                        KEYWORDS
                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                          TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                              865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                  716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     267
Lawrence Livermore National Laboratory
Livermore, CA, USA
Email: help@image.llnl.gov
This read has been verified (found to hit its original self in the correct orientation), as part of the I.M.A.G.B. Consortium quality control effort. High quality sequence is defined as having 100 or
                                                                                                                                                                                                                                                                                                          HIB16954

682 bp mRNA linear EST 10-OCT imageqc_10_2000/slz410bdff41.xl Soares_NPBMC Homo sapiens cDNA clone IMAGE:4140798 3', mRNA sequence.
                                                                                                              The I.M.A.G.E. Consortium quality resequencing for verification Unpublished (2001) Other_ESTs: BG058779
                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 682)
Kale, P.I., Harsch, T.J., Folta, P.A., Nelson, D.O., Sanders, C.G. and
                                                                                                                                                                                                                                             Homo
                                                                                    Contact: Prange CK
The I.M.A.G.E. Consortium
                                                                                                                                                                        Prange, C.K.
                                                                                                                                                                                                                                                         Homo sapiens (human)
                                                                                                                                                                                                                                                                                      BI816954.1
                                                                                                                                                                                                                                                                                                                                                                                                                                 GGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAACCAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCAAAGCTCCCAAGATG-TGCCTCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                  GGCCAGCTCCTGGACTATGAGAAGAAGAATTAAGAACCAGACT 757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGCTTACAGATTTGTGAAAGAA-AAAAGACCTACTATATCTCCAAACTTCAATTTTCT-G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCGCTCCG-CACCATCGCTATCG-CTACATCATGAAGAGGATGGACATGTCTTTAGATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CATTGAGAAAGCCAAAAGCCTCCAATGGATGTG-TCTAGTGCACTGTTTAGCTGGGATCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCTGTGAATGACAGCTTCTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCTGTGAATGACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ANATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGCCAGCGAGATGTCCTCAACAAGGAGCTGATGCAGCAGAATGGGATCGGTTATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTTATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCTTGCTTACCTGTTGCCAACATTGGGCCAACCCGAATTCTTCCCAATCTTTATCTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCTTGCTTACCTGTTGCCAACATTGGGCCAACCCGAATTCTTCCCCAATCTTTATCTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCGTAGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TAAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TAAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTTGCTGAGTTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCAAAGCTCCCAAGATGTTGCCTCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGCTTACAGATTTGTGACAGAACAAGAGACCTACTATATCTCCAAACTTCAATTTTCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AMATGCCAGCAMTACCTGTCCAMAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGT
                                                                                                                                                                                                                                            sapiens
                                                                                                                                                                                                                                                                                      GI:15911639
                                                                                                                                                          control effort: clone
                                                                                                                                                                                                                                                                                                                                               EST 10-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       358
    Ś
                             밁
                                                         S
                                                                                     밁
                                                                                                           S
                                                                                                                                            밁
                                                                                                                                                                      ş
                                                                                                                                                                                                    밁
                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                113
                                                                                        173
                                                                                                                   649
                                                                                                                                             233
                                                                                                                                                                         589
                                                                                                                                                                                                     293
                                                                                                                                                                                                                                529
                                                                                                                                                                                                                                                            353
                                                                                                                                                                                                                                                                                      469
                                                                                                                                                                                                                                                                                                                  413
                                                                                                                                                                                                                                                                                                                                               409
                                                                                                                                                                                                                                                                                                                                                                           473
                                                                                                                                                                                                                                                                                                                                                                                                       349
                                                                                                                                                                                                                                                                                                                                                                                                                                   533
                                                                                                                                                                                                                                                                                                                                                                                                                                                               289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            169
                                                           709
     769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        647;
     GCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
```

```
more base pairs with a phred quality value of 20 or greater, a sliding window of 4 base pairs with a phred quality value or greater marks the beginning and end of the sequence. For information on obtaining this clone, please contact info@image.lnl.gov. effort.

Plate: LLAM9388 row: k column: 7
                                                                                                                                                                                                                                                                                                                                                                                                                        Seq primer: -21m13
                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                  quality sequence stop: 682.
Location/Qualifiers
                                                                                  /clone="IMAGE:4140798"
/tissue_type="lymphocyte"
/lab_host="DH108 (phage_resistant)"
/clone_lib="Soares_NPBMC"
/note="Organ: blood; Vector: pT7T3D
                                                                                                                                                                                                                                                                                                                  /mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                        1. .682
                                                                                                                                                                                                                                                                                                                                                organism="Homo
                   69,9%;
Score 633; DB 12;
Pred. No. 5.3e-178;
0; Mismatches 5;
                                                                                                                                                                                                                                                                                                                                                  sapiens"
                                                                                                                                                                                                           pT7T3D-Pac; Site_1:
NA was primed with a
                                    Length
                                     682;
                                                                                                                                                                                                               Not I -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of 15
```

GAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAAC AAGGTGCAACAGGACAAAGTGTT-ATTACAGAGCTCATCCAGGATTCAGCGAAACATAAG GTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCC AATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATC GAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCCAAAAGCCTCC AAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTTGT TCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGT TCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAAC TCTCTCTTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAAC GTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCC AGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCCAGCGAAACATAAG **AATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCCGCTCCGCCACCATCGCTATC** GAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCC AAGGAGCTGATGCAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCA **AAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCA** ATTIGGGCCAACCCGAATTCTTCCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAAC ATTGGGCCAACCCGAATTCTTCCCAATCTTATCTTGGCTGCCAGCGAGATGTCCTCAAC GAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAAC TCTGTTCACCTGCTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGT AAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGT 0; Indels 1; Gaps <u>ج</u> 768 114 708 174 648 234 588 294 528 354 468 414 408 474 348 534 288 594

밁

```
뭥
                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                    318
                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                      μ
                                                                                                             TGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTG 437
                                                                                                                                                                                                                                                          ACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTTGGGTTTTGC
                                                                                                                                                                                                    ACTTĊŤĠĠĠŤŔĂŔĊŤĠĠŔĠŔĠĠŔĠĊŤŦĊŔŔĊŤĠŤĊŶĠĊĊŔĊĊŤĠĊŤŤĠĊŔĠĠŤĠĠĊŤŤŤĠĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unpublished (1995)

Contact: Robert Strausberg, Ph.D.

Email: cgapbs-remail.nih.gov

Tissue Procurement: Dr. James Lin University of Iowa
CDNA Library preparation: Dr. M. Bento Soares, University of Iowa
CDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Albrary horizon bistribution information can be found at
This clone was contributed by the Brain Molecular Anatomy Project
                                                                                                                                                                                                                                                                                                                                   AGTTTÁTGÁTCAÁAGTTCCCCAAGÁTGTTGGTTCTCTCAGTCAGÁCTGCTTTCTCACTGT
                                                                                                                                                                                                                                                                                                                                                                                  AGTITACGATCAAAGCTCCCAAGATGTTGCCTCTCTCTCTCAGACTGTTTTCTCACTGT 317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Seq primer: pyx-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 715)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CF727177
UI-M-HB0-Ckj-j-09-0-UI.rl NIH_BMAP_HB0 Mus musculus
IMAGE:30548096 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CF727177.1 GI:37601345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /clone="IMAGE:30548096"
/tissue_type="whole eye"
/dev_stage="embryo 12.5,13.5,14.5 dpc"
/lab host="philo"
/clone_lib="NIH_BMAP_HB0"
/note="Organ: Eye; Vector: pYx- Asc; Site_1: EcoR I;
Site_2: Not I; The library was constructed according
1996. Denatured RNA was size fractionated on a 1% agarose
primer containing a Not I site_Double strand cDNA was
size fractionated on a 1% agarose
primer containing a Not I site_Double strand cDNA was
with EcoR I adaptor, digested with NotI and then cloned
directionally into pYx-Asc vector. The library tag
is TTATTGAACT. This library was created for the University
Developing Mouse Nervous System', supported by National
Institute of Mental Health (NIMH)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /mol_type="mRNA"
/strain="C57BL/6"
/db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Mus musculus"
/mol type="mRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                62.5%;
92.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 565.8; DB 14;
Pred. No. 7.5e-158;
0; Mismatches 52;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           715;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EST 09-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                     377
                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 5
CF742387
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             멼
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Contact: Robert Strausberg, Ph.D.

Email: cgapbs-r@mail.nih.gov

Tissue Procurement: Dr. James Lin University of Iowa
cDNA Library preparation: Dr. M. Bento Soares, University
DNA Sequencing by: Dr. M. Bento Soares, University
DNA Sequencing by: Dr. M. Bento Soares, University of Iow
Clone Distribution: Distribution information can be found
http://genome.uiowa.edu/distribution/mousefl.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus 1 Loases 1 to 639 Nati-Mac http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC) Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CF742387
CF742387.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This clone was contributed by the Brain Molecular Anatomy Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CE742387
UI-M-HB0-cll-c-20-0-UI.rl NIH_BMAP_HB0 Mus musculus IMAGE:30619363 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 618 CCTGCGTGTGCAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301 crárereradadieca acadracererecadadeceredaceredaceredadeceredadecere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       558 TTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCCGAGTCTCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       438
                                                                                                                                                                                                                                                                                                                                                                                                                                         Primer: pyx-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rtrtatiggiccaactcatigactatigagaagacgattaataaccagact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCTAĞATGAGGCTTACAĞATİTIĞITĞAAAĞAAAAAAĞACCTACTACTATITECCCGGATTİTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTTAGATGAAGCTTACAGATTTGTGAAAGAAAAAGACCTACTATATCTCCAAACTTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                reggarcicréecieces chartes de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de la reconstruction de 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rgrgárticátigágaaágcaaáágcctccaátggctgtgtgtgttatccáctgcttagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cerdedagrigeergaardacagerrrrgrgagaaaaareeraceardgrrggacaagre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTATCTTGGCTGCCAGCGAGATGTCCTCAACAACGAGCTGATACAGCAGAATGGGATTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cararcreascrirectraccretrices ancartes de caractres de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACCCGAACTTTTCTTCCCAATCT
                                /db_xref="taxon:10090"
/clone="IMACE:30619363"
/tissue_type="whole eye"
/dev_stage="embryo 12.5,13.5,14.5 dpc"
/lab_host="PH10B (T1 phage resistant)"
/clone_lib="NIH BMAP HB0"
                                                                                                                                                                                                                                                          /mol_type="mRNA"
/strain="C57BL/6"
                                                                                                                                                                                                                                                                                                                    organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                             ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GI:37638726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (house mouse)
Vector: pYX- Asc; Site_1:
```

cDNA clone

EST 10-OCT-2003

906

480 797

737

677

360

420

617

300

University of Iowa found at

of Iowa

```
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 589;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                          590
                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         350
                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       110 ACAATACATCCCACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAA 169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      50
CP532917 656 bp mRNA
UI-M-GHO-cgw-n-02-0-UI.rl NIH BMAP_GHO MUB
IMAGE:30357529 5', mRNA sequence.
CP532917 GI:34584885
EST.
Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 CTCTGCTGGAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGACCATTTGTGGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGG
                                                                                                                                                                                                                                                                                                                                                                                      AGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTTGTG
                                                                                                                                                                                                                                                                                                               AGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCA 688
                                                                                                                                                                                                                                                                                                                                                              AGCCTGACTTCATACCTGAATCTCACTTCCTGCGAGTGCCTGTGAATGACAGCTTTTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGGACCTGATGCAACAGAATGGGATTGGCTATGTGTTAAATGCCAGCAATACCTGTCCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTTAAATGCCAGCTATACCTGTCCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTGGGCCAACTCGAATTCTTCCCAATCTCTATCTTGGCTGCCAGCGAGATGTCCTCAACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTGGGCCAACCCGAATTCTTCCCCAATCTTTATCTTGGCTGCCAGCGGAGATGTCCTCAACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAGGAAAGTCCACTCTAGTCCCTACCTGCATATCTCAGCCTTGCTTACCTGTTGCGAACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               crerceaccrecariecaecrirecreacrirecreacrirerricecreeccrerere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTCTGTCGTCAGACTGCTTTCTCACTGTACTTCTGGGTAAACTGGAGAGGAGCTTCAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTGACATTGACTGCAATCAGAAGGTGGTAGTTTATGATCAAAGTTCCCCAAGATTTTGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGTTGCAACAGGACAAAGTATTAATTACAGAACTTATCCAACATTCTGCAAAAGCATAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACAATACGTCTCACATTTTGGAAGCCATTAATATCAACTGCTCCAAACTGATGAAGCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTCTGCTGGAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    primer containing a Not I site .Double strand cDNA was size selected according to mRNA size fraction, ligated with EcoR I adaptor, digested with NotI and then cloned directionally into pXX-Asc vector. The library tag sequence located between the Not I site and the polyA tail i TTATTGAAGT. This library was created for the University Iowa Brain Anatomy Project (BMAP): 'Gene Discovery in the Developing Mouse Nervous System', supported by National Institute of Mental Health (NIMH)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Site 2: Not I; The library was constructed according Bonaldo, Lennon and Soares, Genome Research, 6:791-806, 1996. Denatured RNA was size fractionated on a 1% agarose gel. First strand cDNA synthesis was primed with oligo-dT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61.8%;
92.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 559.6; DB 14; Pred. No. 5.1e-156;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     50;
                                                                                                                                                                                                                                                                  639
                                                                                                                      musculus cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                 EST 12-SEP-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     589
                                                                                                                                                                                                                                                                                                                                                                                                          649
                                                                                                                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
```

S

밁 S 밁

밁

ş 밁 Ś 밁 ঠ 뭐 Ś

RESULT 6 CF532917 LOCUS

301

360

밁 S 밁 δ 밁 र्

```
ঠ
                                                                                                       밁
                                                                                                                                                      S
                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                     ద
                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
                                            343
                                                                                                       241
                                                                                                                                                           283
                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                  223
                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                            163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                103
                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               598;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Robert Strausberg, Ph.D.

Email: cgapbe-r@mail.nih.gov

Tissue Procurement: Dr. Jim Lin, University of Iowa

CDNA Library preparation: Dr. M. Bento Soares, University of Iowa

CDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa

CDNA Sequencing by: Dr. M. Bento Soares, University of Iowa

CNA Sequencing by: Dr. M. Bento Soares, University of Iowa

Clone Distribution: Distribution information can be found at

http://genome.uiowa.edu/distribution/mousefl.html

This clone was contributed by the Brain Molecular Anatomy Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1. (bases 1 to 656)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Seq primer: pYX-5
                                                                                                                                                                                                                                               CATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTTACGATCAAAGCTCCCAAGAT
                                                                                                                                                                                                                                                                                                                                                   AAGCGAAGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAA 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTGGAATACAATACATCCCACATTTTGGAAGCCATTAATATACAACTGCTCCAAGCTTATG
                                                                                                                                                                                                                                                                                                                                                                                                                              GTGGAATACAATACGTCTCACATTTTGGAAGCCATTAATATCAACTGCTCCAAACTGATG
TTCAACTCTGTCCACCTGCTTGCAGGTGGCTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGC
                              TTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGCTTGTTTTCCCTGGC
                                                                                                                                                              GTTGCCTCTCTCTTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGC
                                                                                                                                                                                                                   CATAAGGTTGACATTGACTGCAATCAGAAGGTGGTAGTTTATGATCAAAGTTCCCAAGAT
                                                                                                                                                                                                                                                                                                                       AAGCGAAGGTTGCAACAGGACAAAGTATTAATTACAGAACTTATCCAACATTCTGCAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGTGGCTCTGCTGGAAAGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGACCATTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGTGGCTCTGCTGGAAAGTGGAAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCA-TTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /dev stage="1, 5, and 15 days newborn"
//dev stage="1, 5, and 15 days newborn"
//lab host="PH108 (T1 phage resistant)"
//clone 11b="NIH_BMAP_GH0"
//clone 11b="NIH_BMAP_GH0"
//clone 11b="NIH_BMAP_GH0"
//clone 12b="NIH_BMAP_GH0"
//clone 12b="Not 1; The library was constructed according Site 2: Not 1; The library was constructed according Soarse; Genome Research, 6:791-806, Bonaldo, Lennon and Soarse; Genome Research, 6:791-806, Bonaldo, Lennon and Soarse; Genome Research, 6:791-806, Bonaldo, Lennon and Soarse; Genome Research, 6:791-806, Bonaldo, 1:400-400, and Soarse; Genome Research, 6:791-806, Bonaldo, 1:400-400, as size fractionated on a 1% agazose gel. First strand cDNA was size fractionated with Oligo-dT primer containing a Not 1 miles fraction, 11gated with EcoR I adaptor, digested with NotI and then cloned directionally into pXX-Asc vector. The library tag sequence located between the Not I site and the polyA tail is CGAACTGAAT. This library was created for the University Iowa Brain Anatomy Project (BMAP): 'Gene Discovery in the Developing Mouse Nervous System', supported by National Institute of Mental Health (NIMH), Hemin Chin, Ph.D., program coordinator."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /clone="IMAGE:30357529"
/tissue_type="Whole brain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /mol_type="mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /strain="C57BL/6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 558.2; DB 14;
Pred. No. 1.4e-155;
0; Mismatches 48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 656;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                              342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
                                                    402
                                                                                                       300
                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                     282
                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   162
```

	FEATURES BOUTCE	BUT04078 BUT	
/strain="c57BL/6" /db_xref="taxon:10090" /clone="IMAGE:6406486" /tissue_type="whole brain" /dev_stage="embryo 12.5dpc" /lab_host="DH10B (T] phage resistant)" /clone lib="NIH BMAP F00" /note="Organ: Brain; Vector: pYX- Asc; Site 1: EcoR I; Site 2: Not I; The library was constructed according 1996. Denatured RNA was size fractionated on 1% agarose primer containing a Not I site. Double strand cDNA was size selected according to mRNA size fraction, ligated directionally into pYX-Asc vector: The library tag is TGAGAGAGCC. This library was created for the University Iowa Brain Anatomy Project (BMAP): 'Gene Discovery in the	Tissue Procurement: Dr. Jim CDNA Library preparation: I CDNA Library preparation: I CDNA Library preparation: I CDNA Library preparation: I CDNA Library preparation: I CDNA Sequencing by: Dr. M. B CLONE Distribution: MGC clo found through the I. M.A.G.E. This clone was contributed (BMAP) Seq primer: pYX-5. Location/Qualifiers 1. 769 //mol type="mRNA"		403 CTCTGTGAAGGAAATCCACCTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTT 462
RESULT 8 BF472046 LOCUS DEFINITION ACCESSION VERSION KEYWOODS SOURCE ORGANISM REFERENCE AUTHORS TITLE JOURNAL MEDLINE PUBMED	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ORIGIN Query M Best Lo Matches Qy Db Qy Db Db
BF472046 UI-M-BH3-awu-d-10-0-UI.rl NIH BMAP M UI-M-BH3-awu-d-10-0-UI 5', mRNA sequ BF472046.1 GI:11541229 EST. Mus musculus (house mouse) Mus musculus ENCARYOTA; Metazoa; Chordata; Craniat Mammalia; Eutheria; Rodentia; Sciuroc 1 (bases 1 to 650) Bonaldo, M.F., Lennon, G. and Soares, M. Normalization and subtraction: two ap Genome Res. 6 (9), 791-806 (1996) 97044477 8889548		454 TTACCTGTTGCCAACATTGGGCCAACCCGAATTCTTCCCCAATCTTTATCTTGCTGCTGCCAG	Developing Mouse Nervous System', supported by Nation Institute of Mental Health (NIMH), Hemin Chin, Ph.D., program coordinator." Match

Į

```
JAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGC 453
                                                            PICACCIGCITGCAGGIGGGITIGCTGAGITCTCTCGITGT 393
                                                                                                                      ICTCTTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTG 333
                                                                                                                                                                                  Score 551.4; DB 13; Length 769;
Pred. No. 1.6e-153;
0; Mismatches 51; Indels 0;
                                                                                                                                                                                                                                                                   fouse Nervous System', supported by National
Mental Health (NIMH), Hemin Chin, Ph.D.,
dinator."
                                                                                                                                                                                Indels 0; Gaps
                                                                                                                                                                                  ,
```

```
밁
                                                                                                                                                                                                                                            Ś
                                                                                S
                                                                                                                           밁
                                                                                                                                                         ક
                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                           á
                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local S
Matches 603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gource
                                                                                                                                                                    131
                                                                                                                                                                                                                                                                                                                                                                        603;
                                                                                                                                                                                                            13
                                                                                                                                                                                                                                                  71
                                                                                                                                                                                                                                                                                                                                 11 AGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAAAGTGGAACGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDNA Library Preparation: M.B. Soares Lab Clone distribution: Researchers may obtain BMAP cDNA clones from RESEARCH GENETICS. It should be noted that Bento Soares is generating a small number of additional specialized non-redundant arrays of BMAP cDNAs whose availability will be considered under appropriate and limited collaborative arrangements
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Chin, H
National Institute of Mental Health
6001 Executive Blvd. Room 7N-7190, MSC 9643, Bethesda,
20892-9643, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tel: 301 443 1706
Fax: 301 443 9890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Email: mEST@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                             Similarity
      TAATTACAGAACTTATCCAACATTCTGCAAAGCATAAGGTTGACATTGACTGCAATCAGA
                                                                      AAGCCATTAATATCAACTGCTCCAAACTGATGAAGCGAAGGTTGCAACAGGACAAAGTAT
                                                                                                                                                             AAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGGTTGCAACAGGACAAAGTGT
                                                                                                                                                                                                          AAAAA-TGCTGCTAATTGATAGCCGACCATTTGTGGAATACAATACGTCTCACATTTTGG
                                                                                                                                                                                                                                                AAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCCCACATTTTGG
                                                                                                                                                                                                                                                                                         AGATGATTGGAACTCAAATTGTTACTGAGAGCTTGGTGGCTCTGCTGGAAAGTGGAACGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          primer: Ml3 Reverse
                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /clone lib="WHI BMAP M S4"
/note="Vector: pT7T3D-Pac (Pharmacia) with a modified
/note="Vector: pT7T3D-Pac (Pharmacia) with a modified
polylinker; Site 1: Not I; Site 2: Eco RI; The
NIH BMAP M S4' library is a subtracted library of a series,
ultimately derived from a mixture of individually tagged
normalized libraries from ten regions of the mouse brain
(cerebellum, brain stems, olfactory bulbs, hypothalamus,
cortex, amygdala, basal ganglia, pineal gland, striatum,
hipoccampus) after a series of subtractions to reduce the
representation of cDNAs from which ESTs had already been
generated. The following serially subtracted libraries
were generated in this process: NIH BMAP M S3.1,
NIH BMAP M S3.3, NIH BMAP M S3.2, NIH BMAP M S3.2,
NIH BMAP M S3.3, NIH BMAP M S3.3, NIH BMAP M S3.2, and
cDNA inserts from NIH BMAP M S3.3, NIH BMAP M S3.3, and
was used as a driver in a hybridization with a pool of
the NIH BMAP M S3.3, NIH BMAP M S3.2, and NIH BMAP M S3.3, NIH BMAP M S3.2, and
was purefied by hydroxyapatite column chromatography,
converted to double-stranded circles and electroporated
into DH10B bacteria (LifeTechnologies) to generate the
NIH BMAP M S4 library. This procedure has been previously
described (Bonaldo, Lennon and Soares, Genome Research
6:791-1866. 1996)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /db_xref="taxon:10090"
/clone="UI-M-BH3-awu-d-10-0-UI"
/dev_stage="27-32 days"
/lab_host="DH10B (Life Technologies)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      strain="C57BL/6J"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                        0,
                                                                                                                                                                                                                                                                                                                                                                                           Score 544.8; DB 10;
Pred. No. 1.4e-151;
                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₹
                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                            239
                                                                                     250
                                                                                                                           179
                                                                                                                                                                    190
                                                                                                                                                                                                            119
                                                                                                                                                                                                                                                  130
                                                                                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 9
AW847425/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                           PUBMED
                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
/db_xref="taxon:9606"
/dev_stage="Adult"
/clone_lib="CT0206"
```

```
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 602)

Dias Neto, E., Garcia Correa, R., Verjovski-Almeida, S., Briones, M.R., Nagai, M.A., da Silva, W. Jr., Zago, M.A., Bordin, S., Costa, F.F., Coldman, G.H., Carvalho, A.F., Matsutuma, A., Baia, G.S., Simpson, D.H., Brunstein, A., deOliveira, P.S., Bucher, P., Jongeneel, C.V., O'Hare, M.J., Soares, F., Brentani, R.R., Reis, L.F., de Souza, S.J. and Simpson, A.J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              602 bp mRNA linear
RC1-CT0206-270999-021-g01 CT0206 Homo sapiens cDNA,
AW847425
AW847425.1 GI:7942942
                                                                                                                                                                                               Email: asimpson@ludwig.org.br
This sequence was derived from the FAPESP/LICR Human Cancer Genome
Project. This entry can be seen in the following URL
(http://www.ludwig.org.br/scripts/gethtml2.pl?tl=&t2=RC1-CT0206-270
999-021-g01&t3=1999-09-27&t4=1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Simpson A.J.G.
Laboratory of Cancer Genetics
Ludwig Institute for Cancer Research
                                                                                                                                                                                                                                                                                                                                          Fax: +55-11-2707001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Shotgun sequencing of the human transcriptome with ORF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                        Seq primer: puc 18 forward
                                                                                                                                                                                                                                                                                                                                                                           Tel: +55-11-2704922
                                                                                                                                                                                                                                                                                                                                                                                                                                Rua Prof. Antonio Prudente 109,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Proc. Natl.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sequence tags
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTG 370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAAATTT 658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACCCGAATTCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCAATCTCTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGACCTGATGCAACAGAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTACCTGCATATCTCAGCCTTGCTTACCTGTTGCGAACATTGGGCCCAACTCGAATTCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGG-AAATCCACTCTAGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCACTGTACTTCTGGGTAAACTGGAGAGGAGCTTCAACTCTGTCCACCTGCTTGCAGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTCACTTCCTGCGAGTGCCTGTGAATGACA-CTTTTGTGAGAAAATCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGATTGGCTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTCATACCTGAAT
                                                                                  quality sequence start: 8 quality sequence stop: 602. Location/Qualifiers
/organism="Homo sapiens"
/mol_type="mRNA"
                                                              .602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Acad.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sci. U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           97
                                                                                                                                                                                                                                                                                                                                                                                                                                   4 andar,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (7), 3491-3496
                                                                                                                                                                                                                                                                                                                                                                                                                                   01509-010,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                   Sao Paulo-SP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EST 19-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              299
```

```
Page
œ
```

```
REFERENCE
AUTHORS
                                                                                                                                           SOURCE
ORGANISM
                                                                                                                                                                                ACCESSION
VERSION
                                                                                                                                                                                                                    RESULT 10
AW847426/c
LOCUS
                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                        DEFINITION
                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 580; Conserv
         L (bases 1 to 595)
Dias Neto, E., Garcia Correa, R., Verjovski-Almeida, S., Briones, M.R., Magai, M.A., da Silva, W. Jr., Zago, M.A., Bardin, S., Costa, F.F., Brunstein, A., deoliveira, F.S., Bucher, P., Jongeneel, C.V., O'Hare, M.J., Soares, F., Brentani, R.R., Reis, L.F., de Souza, S.J. and Shotgun sequencing of the house
                                                                                                                                                                                                                                                                                                       709
                                                                                                                                                                                                                                                                                                                              117
                                                                                                                                                                                                                                                                                                                                                      649
                                                                                                                                                                                                                                                                                                                                                                               177
                                                                                                                                                                                                                                                                                                                                                                                                       589
                                                                                                                                                                                                                                                                               60
                                                                                                                       Homo sapiens (human)
Homo sapiens
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          409
                                                                                                                                                                 AW847426
RC1-CT0206-270999-021-g06
AW847426
AW847426.1 GI:7942943
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                595 AGCGTGCAACAGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          169
                                                                                                                                                                                                                                                                                 AATGGATGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCA 760
                                                                                                                                                                                                                                                                CATGGATGTGTTCTÁGTGCÁCTGTTTTÁGCTGGGÁTCTCCCGCTCCGCCÁCCÁ
                                                                                                                                                                                                                                                                                                            ĠĀĠĀĀĀĀŤŤŤŤĠĊĊĠŤĠĠŤŤĠĠĀĊ-ĀĀŤĊĀĠŤĀĠĀŤŤŤĊĀŤŤĠĀĠĀĀĀĠĊĀĀĀ--GĊCTĊ
                                                                                                                                                                                                                                                                                                                              GAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCC
                                                                                                                                                                                                                                                                                                                                                                             AAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGT
                                                                                                                                                                                                                                                                                                                                                               AAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGT
                                                                                                                                                                                                                                                                                                                                                                                                              AAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAAATGCCAGCTATACCTGTCCN 178
                                                                                                                                                                                                                                                                                                                                                                                                                             AAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCA 588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTGGGCCAÁCCCGAÁTTCTTCCCCAÁTCTTTATCTTGGCTGCCAGCGAGATGTCCTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTGGGCCAACCCGAATTCTTCCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ĠĥĀĠĠĥĀĀŔŢĊĊĀĊŢĊŢĀĠŢĊĊĊŢŖĊĊŢĠĊĂŢŢŢĊŢĊĀĠĊĊŢŢĠĊŢŖĊŢŖĊŢĠŢŢĠĊĊĸĸĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCTCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rererrekéertéertéekéertésérrésértékértérértértértéertéséertésértértér
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCTCTCTTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAAC 348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ĠŦŦĠĀĊĀŦŶĠĀŶŶĠĊĀĠŦĊĀĠĀĀĠĠŦŦĠŶĀĠŦŦŦĀĊĠĀŶĊĀĀĀĠĊŦĊĊĊĀĀĠĀŦĠŦŦĠĊ~
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                - ČTČTĆŤĊŤŤČÁĠĄĆŤĠŤŤŤŤĊTČÁĊŤĠŤĄĊŤŤĊŤĠĠĠŤĄĄĄĆŤĠĠĄĠĄĄĠĠĠŢŤĊĠĄĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCC 288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCGATTCAGCGAAACATAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="Organ: colon; Vector: puc18; Site_1: SmaI; Site_2: SmaI; A mini-library was made by cloning products derived from OREGRES POR (U.S. Letters Patent application No. into the pUC 18 vector. Reverse transcription of tissue mRNA and cDNA amplification were performed under low
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       59.8%;
98.0%;
                                                                                                Chordata; Craniata; Vertebrata; Euteleostomi; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 541.4; Pred. No. 1.4e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0,
                                                                                                                                                                                               595 bp
6 CT0206
 transcriptome with
                                                                                                                                                                                         mRNA lir
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.4e-150;
ches 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 10;
                                                                                                                                                                                      linear
ens cDNA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
ORF expressed
                                                                                                                                                                                      mRNA sequence.
                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ۍ
ټ
                                                                                                                                                                                     sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                        708
                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                               118
                                                                                                                                                                                                                                                                                                                                                                                       648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        228
             Ş
                                           뭐
                                                            Ş
                                                                                            밁
                                                                                                                 á
                                                                                                                                            맒
                                                                                                                                                                 Ś
                                                                                                                                                                                            밁
                                                                                                                                                                                                               S
                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                           멍
                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
MEDLINE
PUBMED
                649
                                        167
                                                                 589
                                                                                          227
                                                                                                                 529
                                                                                                                                           287
                                                                                                                                                                    469
                                                                                                                                                                                           347
                                                                                                                                                                                                                   409
                                                                                                                                                                                                                                           407
                                                                                                                                                                                                                                                                  349
                                                                                                                                                                                                                                                                                            466
                                                                                                                                                                                                                                                                                                                                             525
                                                                                                                                                                                                                                                                                                                                                                                            585
                                                                                                                                                                                                                                                                                                                                                                                                                     169
                                                                                                                                                                                                                                                                                                                                                                                                                                            576;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fax: +55-11-2707001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tel: +55-11-2704922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Proc. Natl. A
                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         quality sequence stop: 595.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Homo sapiens"
/mol type="mRNA"
/db xref="raxon:9606"
/dev_stage="Adult"
/clone_lib="CT0206"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                 59.1%;
97.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       . 595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Acad.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sci. U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 535.6;
Pred. No. 7.6e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97
```

밁 Ş 밁 Ş 밁 Ś 밁 Ś 뫄 Ś B Ş Вb Ś

```
107
                      GAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCC
GAGAAAATTTTGCCCGTGGCTGGAC-AATCAGTAGATTTCATTGAGAAAAGCAAA--GCCTC
                                                                                  AAGCCTGACTTTATCCCCGGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGT
                                                                AAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAAATGCCAGCTATACCTGTCCC
                                                                                                                                                        AAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCA
                                                                                                                                                                                                      ATTGGGCCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAAC
                                                                                                                                                                                                                                                                     GAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAAC
                                                                                                                                                                                                                                                                                                                                                              TCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGT
                                                                                                                                                                                                                                                                                                                                       rcrerreacerrecaeereeerrecaerrecreaerrecrerrerrerrecerrecerrecerrerer
                                                                                                                                                                                                                                                                                                                                                                                                          - crereterekagaeterriterekererretreteggtaaaetegakaagagetrekae
                                                                                                                                                                                                                                                                                                                                                                                                                                TCTCTCTCTTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAAGACTTCAAC 348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Email: asimpson@ludwig.org.br
This sequence was derived from the FAPESP/LICR Human Cancer Genome
Project. This entry can be seen in the following URL
(http://www.ludwig.org.br/scripts/gethtml2.pl?tl=&t2=RC1-CT0206-270
999-021-g06&t3=1999-07&t4=1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ĠŦŦĠĀĊĀŦŦĠĀŦŦĠĊĀĠŦĊĀĠĀĀĠĠŦŦĠŦĀĠŦŦŦĀĊĠĀŤĊĀĀĀĠĊŦĊĊĊĀĀĠĀŦĠŦŦĠĊ-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCC 288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Contact: Simpson A.J.G.
Laboratory of Cancer Genetics
Ludwig Institute for Cancer Research
Rua Prof. Antonio Prudente 109, 4 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note=Torgan: colon; Vector: puc18; Site_1: Smal; Site_2: Smal; A mini-library was made by cloning products derived from ORESTES PCR (U.S. Letters Patent application No. 196,716 - Ludwig Institute for Cancer Research) profiles mind the pUC 18 vector. Reverse transcription of tissue mind and cDNA amplification were performed under low
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       , DB 10;
.6e-149;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (7),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   andar,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3491-3496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01509-010,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sao
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Paulo-SP,
                                 708
                                                                  108
                                                                                                   648
                                                                                                                                    168
                                                                                                                                                                     588
                                                                                                                                                                                                                                      528
                                                                                                                                                                                                      228
                                                                                                                                                                                                                                                                     288
                                                                                                                                                                                                                                                                                                      468
                                                                                                                                                                                                                                                                                                                                                                         408
                                                                                                                                                                                                                                                                                                                                         348
                                                                                                                                                                                                                                                                                                                                                                                                            408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ω
'
```

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 11
BQ770036
                                   ક
                                                                                           밁
                                                                                                                                 S
                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                                                                               Matches
                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          709
                                                407
           69
                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tissue Procurement: Dr. Jim Lin, University of Iowa CDNA Library preparation: Dr. M. Bento Soares, University of Iowa CDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa DNA Sequencing by: Dr. M. Bento Soares, University of Iowa Clone Distribution: MGC clone distribution information can be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BQ770036 862 bp mRNA
UI-M-FIO-byt-o-24-0-UI.rl NIH_BMAP_FIO Mus
IMAGE.5702255 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
This clone was contributed by the Brain Molecular Anatomy Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NIH-MGC http://mgc.nci.nih.gov/.
NIH-MGC http://mgc.nci.nih.gov/.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCAC
                               GTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCAC
                                                                                                                 ACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  primer: pYX-5
                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                             /tissue type="whole brain"
//dev_stage="embryo 12.5dpc"
//lab_host="DH108 [T1 phage resistant)"
//clone_lib="NIH_BMAP_F10"
//clone_lib="NIH_BMAP_F10"
//note="Organ: Brain; Vector: pYX- Asc; Site_1: EcoR I;
Site_2: Not I; The library was constructed according
Bonaldo, Lennon and Soares, Genome Research, 6:791-806,
1996. Denatured RNA was size fractionated on a 1% agarose
gel.First strand cDNA synthesis was primed with oligo-dT
primer containing a Not I site. Double strand cDNA was
size selected according to mRNA size fraction, ligated
with EcoR I adaptor, digested with NotI and then cloned
directionally into pYX-Asc vector. The library tag
sequence located between the Not I site and the polyA tail
is CAGCCACGAC. This library was created for the University
Iowa Brain Anatomy Project (BMAP): 'Gene Discovery in the
Developing Mouse Nervous System', supported by National
Institute of Mental Health (NIMH), Hemin Chin, Ph.D.,
program coordinator."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /db_xref="taxon:10090"
/clone="IMAGE:5702255"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        strain="C57BL/6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GI:21978510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . 862
                                                                                                                                                                                                 54.0%;
92.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            type="mRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Chordata;
                                                                                                                                                                                               Score 489.6; DB 13;
Pred. No. 5.6e-135;
                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                             44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
musculus
                                                                                                                                                                             Indels
                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                       862;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EST 2
                                                                                                                                                                             <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26-JUL-2002
                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         clone
                                                466
                                                                                           68
                                                                                                                                     406
                                                                                                                                                                             0
                                                                                                                                                                                                                       REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 12
AK035652
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           멁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                   JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
MEDLINE
PUBMED
        JOURNAL MEDLINE
                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                         TITLE
                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                  PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                647
Shibata, K., Itoh, M., Aizawa, K., Nagaoka, S., Sasaki, N., Carninci, P., Konno, H., Akiyama, J., Nishi, K., Kitsunai, T., Tashiro, H., Itoh, M., Sumi, N., Ishii, Y., Nakamura, S., Hazama, M., Nishine, T., Harada, A., Yamamoto, R., Matsumoto, H., Sakaguchi, S., Ikegami, T., Kashiwagi, K., Fujiwake, S., Inoue, K., Togawa, Y., Izawa, M., Ohara, E., Watchiki, M., Yoneda, Y., Ishikawa, T., Ozawa, K., Tanaka, T., Matsuura, S., Kawai, J., Okazaki, Y., Muramatsu, M., Inoue, Y., Kira, A. and Hayashizaki, Y. RIKEN integrated sequence analysis (RISA) system--384-format sequencing pipeline with 384 multicapillary sequencer Genome Res. 10 (11), 1757-1771 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            467
                                                                                                                                                                                                                                                                                                 Carninci, P., Shibata, Y., Hayatsu, N., Sugahara, Y., Shibata, K., Itoh, M., Konno, H., Okazaki, Y., Muramatsu, M. and Hayashizaki, Y. Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genome Res. 10 (10), 1617-1630 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Meth. En 99279253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AK035652

AK035652

Mus musculus adult male urinary bladder cDNA, RIKEN full-length enriched library, clone:9530081F05 product:TRUNCATED MAPK PHOSPHATASE 7 homolog [Homo sapiens], full insert sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Carninci, P. and Hayashizaki, Y.
High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mug
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HTC; CAP trapper.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AK035652.1 GI:26330815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AK035652
                                                                                                                                                                                                                                                                                      20499374
                                                                                                                                                                                                                                                                  11042159
                                                                                                                                                                                                                                                                                                                                                                                                                                      .0349636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGAAGATTAAGAACCAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGA 886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCGCCTACATGAAGAGGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCAATGGCTGTGTGTTATCCACTGCTTAGCTGGGATCTCTCGCTCCGCCACTATTGCTA 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTGAGAAAATCCTACCATGGTTGGACAAGTCTGTGGATTTCATTGAGAAAGCAAAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACATTGGGCCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCA 526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGACGATTAATAACCAGACT 568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAAAAAGACCTACTATATCTCCGAATTTTAATTTTATGGGCCAACTCATGGACTATGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTGCCTACATCATGAAGAGGATGGACATGTCTCTAGATGAGGCTTACAGATTTGTGAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAPAGCCTGACTTCATACCTGAATCTCACTTCCTGCGAGTGCCTGTGAATGACAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACAAGGACCTGATGCAACAGAATGGGATTGGCTATGTGTTAAATGCCAGCAATACCTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACATTGGGCCAACTCGAATTCTTCCCAATCTCTATCTTGGCTGCCAGCGAGATGTCCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HTC 19-SEP-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus.
                                                                                                                                                                                                                                                                                                                              genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               308
```

```
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PUBMED
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                         Local Simi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Adachi, J., Aizawa, K., Akimura, T., Arakawa, T., Bono, H., Carninci, P., Fukuda, S., Furuno, M., Hanagaki, T., Hara, A., Hashizume, W., Hayashida, K., Hayatsu, N., Hiraoka, T., Hiraoka, T., Hirozane, T., Katch, H., Kawai, J., Kojima, Y., Kondo, S., Komno, H., Kouda, M., Koya, S., Kurihara, C., Matsuyama, T., Miyazaki, A., Murata, M., Nakamura, M., Nishi, K., Nomura, K., Numazaki, R., Ohno, M., Ohsato, N., Okazaki, Y., Saito, R., Saitoh, H., Sakai, C., Sakai, K., Sahazaki, D., Shibata, K., Shinagawa, A., Shiraki, T., Sagama, M., Tagawa, A., Shiraki, T., Takaku-Akahira, S., Takaka, T., Tomaru, A., Toya, T., Yasunishi, A., Direct Submission
               1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in R. Genomic Sciences Center and Genome Science Laboratory in RIKEN Division of Experimental Animal Research in Riken contributed to pressure montant and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and transparent and t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       URL:http://genome.gsc.riken.go.jp/
URL:http://fantom.gsc.riken.go.jp/.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         prepare mouse tissues.
Please visit our web site for further details.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Direct Submission

Submitted (16-JUL-2001) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research (RIKEN), Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center (GSC), RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan (E-mail:genome-res@gsc.riken.go.jp, Fax:81-45-503-9216)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Group Phase I & II Team.
Analysis of the mouse transcriptome of 60,770 full-length cDNAs
Nature 420, 563-573 (2002)
6 (Dases 1 to 3325)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The FANTOM Consortium and the RIKEN Genome Exploration Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The RIKEN Genome Exploration Research Group Phase II Team and the FANTOM Consortium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Functional annotation of a full-length mouse cDNA collection Nature 409, 685-690 (2001)
                                                                                       Conservative
                                                                                                                                                                                /codon_start=1
/protein_id="BAC29138.1"
/protein_id="BAC29138.1"
/db_xref="gi:26330816"
/translation="MAHEMIGTQIVTESLVALLESGTEKVLLIDSRPFVEYNTSHILE
/translation="MAHEMIGTQIVTESLVALLESGTEKVLLIDSRPFVEYNTSHILE
/translation="MAHEMIGTQIHAKHKVDIDCMQKVVVYYDQSSQDVGSLSSDC
FLTVLLGKLERSFNSVHILAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPT
RILPNLYLGCQRDVLNKVGASKHLSLCLSVASGKAAVVHYLSMNIL"
                                                                                                                                                                                                                                                                                                                                                                                 /note="unnamed protein product; TRUNCATED MAPK PHOSPHATASE
7 homolog [Homo sapiens] (SPTR|Q96QS2, evidence: FASTY,
96.7%ID, 86%length, match=369)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /tissue_type="urinary bladder"
/clone_lib="RIKEN full-length enriched mouse cDNA library"
/dev_stage="adult"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone="9530081F05"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /db_xref="FANTOM_DB:9530081F05"
/db_xref="MGI:2399973"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Mus musculus"
/mol_type="mRNA"
/strain="C57BL/6J"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'db_xref="taxon:10090"
                                                                                                            53.3%;
                                                                                    °,
                                                                         Score 482.8; DB 11;
Pred. No. 1.3e-132;
0; Mismatches 32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  based on functional annotation
                                                                         Indels
                                                                                                                      Length
                                                                                                                      3325;
                                                                    0,
                     60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ťo
                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
VERSION
KEYWORDS
                  Query Match 47.8
Best Local Similarity 86.2
Matches 525; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 13
BU946569/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Locus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              820
                                                                                                                                                                                                                                                                                                                                                                                                                              Contact: Fu GK
Incyte Genomics,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         640
                                                                                                                                                                                                                                                                                                                                                                                 3160 Porter Dr., Palo
Tel: 6508454102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                highly efficient
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fu, G.K. and Stuve, L.L.
An improved method for the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rattus norvegicus (Norway rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BU946569
BU946569.1 GI:37701886
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8U946569
792
703769910J1 RALUTXL01 Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAG 534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGAATTCTTCCCAATCTCTATCTTGGCTGCCAGCGAGATGTCCTCAACAACGTG 993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACTCTAGTCCCTACCTGCATATCTCAGCCTTGCTTACCTGTTGCGAACATTGGGCCAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 792)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAAATCC 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTTGCAGGTGGCTTTGCTGAGTTCTCTCGTTGTTTCCCCTGGGCCTCTGTGAAGGAAAGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACTGCTTTCTCACTGTACTTCTGGGTAAACTGGAGAGGAGCTTCAACTCTGTCCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGCAATCAGAAGTTGGTAGTTTATGATCAAAGTTCCCAAGATGTTGGTTCTCTCTGTCGTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACAAAGTATTAATTACAGAACTTATCCAACATTCTGCAAAGCATAAGGTTGACATTGAC 699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CACATTTTGGAAGCCATTAATATCAACTGCTCCAAACTGATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CACATTTTGGAAGCCATTAATATGAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120
                                                                                                                                                                                                                                                                                                                                                                 gfu@incyte.com
                                                                                                                              /organism="Rattus norvegicus"
/mol_type="mRNA"
/db xref="teaxon:10116"
/tissue_type="fung"
/clone_Tib="RALUTXLO1"
/note="Rat, Lung, Clofibrate, 20
sacrifice, SD, M/F, Pool"
                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                       47.8%;
86.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA sequencing
             Score 433; DB 13;
Pred. No. 4.9e-118;
0; Mismatches 80;
                                                                                                                                                                                                                                                                                                                                                                                                           Alto,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        construction of cDNA libraries for ncing from the 3' end of expressed.
                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bp mRNA
norvegicus
                                                                                                                                                                                                                                                                                                                                                                                                      94304,
                                                                                                                                                                                                                                                                                                                                                                                                         USA
                                                                                                                                                         250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cDNA, mRNA sequence.
                                                       Length 792;
                                                                                                                                                   mg/kg,
                                                                                                                                                   12hr-day
     4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EST 17-OCT-2003
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             genes
  4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    879
```

819 360 759 300

639 180

Ś

SdD

```
RESULT 14
BI657528
LOCUS
                                                                                                                                                                                REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                ACCESSION
VERSION
KEYWORDS
                                                                                                                                                       JOURNAL COMMENT
                                                                                                                                                                                                                                                     SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 중 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ર્
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           음 중
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                          182
                                                                                                                                                                                                                                                                                                                                                                                                                                                     839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721 CCGGCTTTCTTCACTGTGCTTCTGGGTAAGCTGGAGAAGAGCTTCAACTCTGGTTCACCT
                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus 1 (bases 1 to 946)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
           found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
Plate: LLAM11827 row: d column: 18
                                                                                                                                      Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                     603281866F1 NCI_CGAP_Mam4
                                                                                                                         Tissue Procurement: Lothar Hennighausen Ph.D.,
                                                                                                                                                                                                                                                      Mus musculus
                                                                                                                                                                                                                                                                  Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                               BI657528.1
                                                                                                                                                                                                                                                                                                                         mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                     BI657528
                                                      CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLN
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information
                                                                                                                                                                                                                                                                                                                                                                                                                          CICCITCCC 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTATATCTC 847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCTGATCCACTGCTTGGCTGGGATCTCCCGCTCGGCCACCATTGCTATTGCCTATATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCATACCCGAATCTCACTTCCTGCGAGTGCCTGTGAATGACAGCTTTTGTGAGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTATCCCCGAGICTCATTTCCTGCGIGIGCCTGTGAATGACAGCTTTTGTGAGAAAATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGCAACAGAACGGGATTGGCTATGTGCTAAATGCCAGCAACACCTGTCCAAAGCCTGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTCGAATTCTTCCCAATCTCTATCTCGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCAGATGTCCTCAACAAGGAGCTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTTGCCAACATTGGGCCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTTGCAGGTGGGTTTGCTTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCTTGCAGGTGGGTTTGC-TGAGTTCTCTCTGTTTTCCCCTGGCCTCTGTGAAGGAAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCT-GTTCACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGC-CTCTCTCTCTCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGAAGAGGATGGACATGTCTCTGGATGAGGCTTACAGTAACGGTAGCTCAGGAAGGCTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGCC-TGGTTGGACAAGTCTGTGGATTTCATTGAGAAAAGCAAAAGCCTCCAACGGCTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCACTCTAGTCCCTACCTGCATATCTCAGCCTTGCCTACCTGTTGCCAACACTGGGCCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCAGTCAGAAGGTGGTAGTGTATGATCAGAGTTCCCAGGATGTGGTTCTCGGTCGTCAGA
 quality
                                                                                                                                                                                                                                                                                               GI:15571764
 sequence stop:
 row: d column:
ence stop: 704.
                                                                                                                                                                                                                                                                                                                                                     946 bp
                                                                                                                                                                                                                                                                                                                                         Mus
                                                                                                                                                                                                                                                                                                                                         musculus
                                                                                                                                                                                                                                                                                                                                                      mRNA
                                                                                                                                                                                                                                                                                                                                        A linear cDNA clone
                                                                                                                            Priscilla
                                                                                                                                                                                                                                                                                                                                        EST 12-SEP-2001
IMAGE:5326049 5',
                                                                                    (LINI)
                                                       Б
                                                                                                                                                                                                                            Mu8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            722
REFERENCE
AUTHORS
                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                             . 당
                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                         뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
```

```
RESULT 15
BF815601/c
LOCUS
DEFINITION
ACCESSION
VERSION
                                                                         SOURCE
ORGANISM
                                                                                                            KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                          817
                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  398 CTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCCTTGCTTAC
                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                          BF815601 512 bp
MR2-CI0128-041200-009-c03 CI0128
BF815601 GI:12150300
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                μ
Eukaryota; Metazoa; Chordata; C:
Mammalia; Eutheria; Primates; C:
1 (bases 1 to 512)
Dias Neto,E., Garcia Correa,R.,
                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                   GACTATGAGAAGAAGAATTAAGAACCAGACT
                                                                                                                                                                                                                                                                                                                                                                            TTTGTGAAAGAAAAAAGACCTACTATATCTCCAAACTTCAATTTTTCTGGGCCAACTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTTAGCTGGGATCTCCCGCTCCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AATACCTGTCCAAAGCCTGACTTCATACCTGAATCTCACTTCCTGCGAGTGCCTGTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GATGTCCTCAACAAGGACCTGATGCAACAGAATGGGATTGGCTATGTGTTAAATGCCAGC
                                                                                                                                                                                                                                                                                GACTATGAGAAGACGATTAATAACCAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                ACTATTGCTATTGCCTACATCATGAAGAGGATGGACATGTCTCTAGATGAGGCTTACAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCAAAAGCCTCCAATGGCTGTGTGTGTTATCCACTGCTTAGCTGGGATCTCTCGCTCCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACAGCTTTTGTGAGAAAATCCTACCATGGTTGGACAAGTCTGTGGATTTCATTGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGGATTGGTTATGTGTTAAATGCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGTTGCGAACATTGGGCCAACTCGAATTCTTCCCAATCTCTATCTTGGCTGCCAGACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGTTGCCAACATTGGGCCAACCCGAATTCTTCCCCAATCTTTATCTTGGCTGCCAG-CGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGGCCTCTGTGAAGGAAAGTCCACTCTAGTCCCTACCTGCATATCTCAGCCTTGCTTAC
                                                                                                                                                                                                                                                                                                                                                       TTTGTGAAAGAAAAAAGACCTACTATATCTCCGAATTTTAATTTTATGGGCCAACTCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /Clone lib="NCI CGAP Mam4"
/rote="Organ: mammary; Vector: pCMV-SPORT6; Site 1: Sall;
/inote="Organ: mammary; Vector: pCMV-SPORT6; Site 1: Sall;
/site 2: Not1; Cloned unidirectionally. Primer: Oilgo dT.
Library constructed by Life Technologies. Investigators
providing samples: Lothar Hennighausen/Priscilla Furth,
NIH Reference for transgenic model: Li et al., Cell Growth
and Differentiation 7, 3-11 (1996)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /mol_type="mRNA"
/strain-"""
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
1. .946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /tissue_type="tumor, gross
/dev_stage="5 months"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        clone="IMAGE:5326049"
                                                                                          (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         47.5%;
91.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 430.8;
Pred. No. 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                    Craniata; Vertebrata;
Catarrhini; Hominidae,
                                                                                                                                                                  Homo sapiens cDNA,
                                                                                                                                                                                                                                                                                                                    906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8; DB 12;
2.5e-117;
                                                                                                                                                                                       nRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          42;
                                      Hominidae;
                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                         Euteleostomi;
                                                                                                                                                                  mRNA sequence.
                                                                                                                                                                                     EST 13-JAN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ۲,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                            876
                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        بر
```

Verjovski-Almeida,S.,

Briones, M.R.,

```
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Sim Matches 486;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                     558
                                                                                                 212
                                                                                                                                               500
                                                                                                                                                                                             272
                                                                                                                                                                                                                                       440
                                                                                                                                                                                                                                                                                     332
                                                                                                                                                                                                                                                                                                                                   381
                                                                                                                                                                                                                                                                                                                                                                                  392
                                                                                                                                                                                                                                                                                                                                                                                                                           321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         452
              152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Email: asimpson@ludwig.org.br
This sequence was derived from the FAPESP/LICR Human Cancer Genome
Project. This entry can be seen in the following URL
(http://www.ludwig.org.br/scripts/gethtml2.pl?tl=MR2&t2=MR2-CI0128-041200-009-c03&t3=2000-12-04&t4=1)
Seq primer: puc 18 forward
High quality sequence start: 20
High quality sequence stop: 233.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nagai,M.A., da Silva,W. Jr., Zago,M.A., Bordin,S., Costa,F.F., Goldman,G.H., Carvalho,A.F., Matsukuma,A., Baia,G.S., Simpson,D.H., Brunstein,A., deoliveira,P.S., Bucher,P., Jongeneel,C.V., O'Hare,M.J., Soares,F., Brentani,R.R., Reis,L.F., de Souza,S.J. and Simpson,A.J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rua Prof. Antonio Prudente 109, 4 andar, 01509-010, Sao Paulo-SP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sequence tags
Proc. Natl. Acad. Sci. U.S.A. 97 (7), 3491-3496 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Shotgun sequencing of the human transcriptome with ORF expressed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Fax: +55-11-2707001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Laboratory of Cancer Genetics
Ludwig Institute for Cancer Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Simpson A.J.
TTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTTATCCCACGAGTCTCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10737800
                          TTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCC-CGAGTCTCATT
                                                                                       ATCTTGGCTGCCAGCGAGACTGTCCTCAACAAGGAGCTGATGCAGCACGAATGGGATTGG
                                                                                                                                                                                                                                                                                                                                                                     TCTGGGTAAACTGGAGAAGAGCTTCAACTCCGTTCACCTGCTTCCAGGTGGCTTTGCTGA 333
                                                                                                                       ATCTTGGCTGCCAGCGAGA-TGTCCTCAACAAGGAGCTGATACAGCA-GAATGGGATTGG
                                                                                                                                                                                 TTTCTCAGCCTTGCTTACCTGTTGCCACATTCGGTCCAACCCGAATTCTTCCCAATCTTT
                                                                                                                                                                                                                 TTTCTCAGCCTTGCCTACCTGTTGCCAACATTGGGGCCAACCCGAATTCTTCCCAATCTTT
                                                                                                                                                                                                                                                                           GTTCTCATCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCA
                                                                                                                                                                                                                                                                                                         GTTCTC-TCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCA 439
                                                                                                                                                                                                                                                                                                                                                                                                   TCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGA 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTACGATCAAAGCTCCCAAGATGTCGCCTCTCTCTCAGACTGTTTTCTCACAGTACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTACGATCAAAGCTCCCAAGATGTTGCCTCTCTCTCTCTGAGACTGTTTTCTCACTGTACT 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTCATCCAGCATTCAGCGAAACATAAGGTTGACATAGATCGCAGTCAGAAGGTTGTAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        +55-11-2704922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="Torgan: colon ins; Vector: pucl8; Site_1: SmaI; Site_2: SmaI; A minI-library was made by cloning products derived from ORESTES PCR (U.S. Letters Patent application No. 196,716 - Ludwig Institute for Cancer Research) profiles into the pUC 18 vector. Reverse transcription of tissue mRNA and cDNA amplification were performed under low stringency conditions."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/dev_stage="Adult"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     47.3%; Score 428.8; DB 10; 94.9%; Pred. No. 7e-117;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    lib="CI0128"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 512;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                393
93
                                              616
                                                                                          153
                                                                                                                                                                                                                                  499
                                                                                                                                                                                    213
                                                                                                                                                                                                                                                                              273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          453
```

Ś В Ş 밁 Ş 밁 Ś 밁 Ś 맑 Ş 밁 Ś

Д	Q	DЪ	Ş
32 CAGTAGATTTCATTGAGAAATGCTAAGCCTTC 1	677 CAGTAGATTTCATTGAGAAAGCCAAAAGCCTCC 708	92 TCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAACATTTCGCCCGTGGTTGGACTAAT 33	617 TCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAAT 676

Search completed: June 22, Job time : 3588.84 secs

Copyright

GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.

```
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                        Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Run
                                                                                                                                                             Database
                                                                                                                                                                                                                                                                                                     Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                   Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   92:
                                                                                                                                                                                                                                                     seq length: 0
seq length: 2000000000
                                                                                                             N_Geneseq_29Jan04:*
1: geneseqn1980s:*
2: geneseqn1990s:*
3: geneseqn2000s:*
 5.
5.
7.
9.
10.
                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-029-345A-108_COPY_538_1443 906 1 atggcccatgagatgattgg.......
                                                                                                                                                                                                                                                                                                                                    3373863 seqs,
                                                                                                                                                                                                                                                                                                                                                                    Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                      IDENTITY_NUC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 June 21,
                                                                                                                                                                                                                                                                                                                                                                                                                  atggcccatgagatgattgg.....agaagattaagaaccagact 906
              geneseqn2000s:*
geneseqn2001as:*
geneseqn2001bs:*
geneseqn2002s:*
geneseqn2003as:*
geneseqn2003bs:*
geneseqn2003bs:*
geneseqn2004s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2004, 12:17:10 ; Search time 526.548 Seconds (without alignments) 7309.622 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                    Gapext 1.0
                                                                                                                                                                                                                                                                                                                                      2124099041 residues
                                                                                                                                                                                                                                                                                                        6747726
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.

:	Score 906		. Le	9 - B	ID ACC60559 ACC60572	Description Acc60559 Polynucle Acc60572 Polynucle
	906		5450	ه م	ACC60572	Acc60572
	902.8	99.6	2118 2732	4 4	AAF30479 AAD09492	Aaf30479 Aad09492
	902.8		S i	ο 1	AAS15768	Aas15768
	902.8		3496	6	ABK47596	Abk47596
	902.8	99.6	3544	ហ	AAS14639	Aas14639
	902.8	•	3544	σ	ABK49402	Abk49402
	902.8	99.6	3766	6	ABK14474	Abk14474
	902.8	•	4790	Φ	ABN83966	Abn83966
	902.8	99.6	5145	v	ABV20833	Abv20833
	902.8	٠	5145	ഗ	ABV21080	Abv21080
	902.8	99.6	5145	ຫ	ABV26680	Abv26680
	902.8	٠	5145	ഗ	ABV20978	Abv20978
	902.8	99.6	5145	տ	ABV21092	Abv21092
	902.8	99.6	5145	ທ	ABV21312	Abv21312
	902.8	99.6	5145	ហ	ABV21316	Abv21316
	902.8	99.6	5145	ហ	ABV26826	Abv26826
		99.6	5145	U	ABV27131	Abv27131
		٠	5145	տ	ABV26923	Abv26923
	902.8	99.6	5145	ហ	ABV27135	Abv27135
	902.8	•	5145	v	ABV28657	Abv28657
		99.6	5145	v	ABV22827	Abv22827

45	44	43	42	41	40	39	38	37	36	35	ω 4	ω ω	32	31	30	29	28	27	26	25	24
339.8	340.8	349	351	359.8	363.6	363.6	365.8	365.8	395.4	410.2	410.2	410.2	411.2	564.8	727.6	782.8	899.6	901.2	901.2	901.2	902.8
37.5	37.6	38.5	38.7	39.7	40.1	40.1	40.4	40.4	43.6	45.3	45.3	45.3	45.4	62.3	80.3	86.4	99.3	99.5	99.5	99.5	99.6
345	346	422	2415	419	2453	2453	2377	2377	427	461	461	461	418	3332	749	2756	2966	5111	3104	2102	5145
տ	տ	ഗ	N	σ	6	N	7	7	v	S	v	თ	S	6	4	σ	4	6	σ	7	Ç,
ABV02076	ABV11245	ABV02083	AAT86757	ABV32042	AAD41236	AAT86758	ABX10760	ACA64956	ABV10887	ABV41327	ABV32398	ABV40981	ABV11252	ABK48378	AAH06539	ACC60560	AAH99685	ACC60521	ABN59704	ADA53105	ABV26934
Abv02076	Abv11245	Abv02083	Aat86757	Abv32042	Aad41236	Aat86758	Abx10760	Aca64956	Abv10887	Abv41327	Abv32398	Abv40981	Abv11252	Abk48378	Aah06539	Acc60560	Aah99685	Acc60521	Abn59704	Ada53105	Abv26934
Human pro	Human pro	Human pro	cDNA of t	Human pro	Murine ne	cDNA of t	Human dua	Human pro	Human pro	Human pro	Human pro	Human pro	Human pro	cDNA enco	Human cDN	Polynucle	Human pro	Polynucle	Novel hum	Human cod	Human pro

ALIGNMENTS

RESULT 1
ACCGO 2
ACCGO XX
ACCGO XX
ACCGO XX
ACCGO XX
ACCGO XX
ACCGO XX
ACCGO ACCGO ACC
ACCGO ACCGO ACCGO ACC
ACCGO Gene; ss; antiproliferative; hepatotropic; nephrotropic; antiarthritic; antipsoriatic; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart defect; congestive heart failure; cancer; human; mouse; yeast; rat; fruitfly. 20-DEC-2001; 2001WO-US050459 25-JUL-2002. WO200257460-A2. Homo sapiens. Polynucleotide relating to the invention SEQ ID NO: 19-JUN-2003 ACC60559; ACC60559 standard; cDNA; (first entry) 5450 ВÞ 108

20-DEC-2000; 2000US-0256868P. 30-MAR-2001; 2001US-0280186P. 01-MAY-2001; 2001US-0287735P. 05-JUN-2001; 2001US-0295848P. 25-JUN-2001; 2001US-0300465P. (BRIM) BRISTOL-MYERS SQUIBB CO

Jackson DG, Siemers N, Krystek S, WPI; 2002-599721/64. P-PSDB; ABR52381. Feder J, Nelson T, Bol D, Schieven G, Mcatee P, Suchard S, Nelson T, Mintier G, Ramanathan hieven G, Finger J, Todderud CG, Suchard S, Banas D; C, Lee L; Bassolino Ö

Claim 1; Fig 13; 801pp; English.

Novel polynucleotides encoding human phosphatase polypeptides useful the prevention or treatment of e.g. proliferative and cardiovascular disorders.

in

The invention relates to a novel isolated nucleic acid comprising þ

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SSSSSSSSSSSSSSSSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Simi
Matches 906;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           polynucleotide having a nucleotide sequence selected from 40 polynucleotides fully defined in the specification. The polynucleotide of the invention has antiproliferative, hepatotropic, nephrotropic, nephrotropic, antipsoriatic, cardiant, and cytostatic activity. The polynucleotide of the invention is useful for preventing treating or ameliorating a medical condition, e.g. a proliferative disorder. They are disorders including arthritis and psoriasis, cardiovascular disorders such as congenital heart defects and congestive heart failure, and condition or susceptibility to a condition in a subject. The present sequence is used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 5450 BP; 1471 A; 1211 C; 1337 G;
                                                                                                                                                                                            1198
                                                                                                                                                                                                                                                                                                1138
                                                                                                                                                                                                                                                                                                                                                                                                         1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1018
                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           538
61
                                                   CTAGTGCACTGTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                            CCGTGGTTGGACAAATCAGTAGATTTCAGTGAAAGGAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                      ATCCCCGÁGTCTCÁTTTCCTGCGTGTGCCTGTGÁATGÁCÁGCTTTT
                                                                                                                                                                                                                                                                                             ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                 CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGĀĀTĪĊTĪĊĊĊĀĀTĊTĪTĀTĊTĪTĠĠĊTĠĊĊĀĠĊĠĀĠĀŢĠŤĊĊŢĊĀĀĊĀĀĠĠĀĠĊTĠĀTĀ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ш
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACTCTAGTCCAACCTGCATTTCTCAGCCTTGCTTACCTGGCAACATTGGGCAACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ĠĀĊŦĠŦŦŦŦĊĦĊĀĊŦĠŦĀĊŦŦĊŦĠĠĠŦĀĀĀĊŦĠĠĀĠĀĠĀĠĊŦŦĊĀĀĊŦĊŦĠŦŦĊĀĊĊŦĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   recaercaea de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca del la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca del la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la recaerca de la re
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACAĀĀĠTĠŦŦĀĀŦŦĀĊĀĠĀĠĊŦĊĀŦĊĊĀĠĊĀŦŤĊĀĠĊĠĀĀĀĊĀŤĀĀĠĠŤŦĠĀĊĀŤŦĠĀŤ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cácartritiggaagccartaataticaactigctccaagctratigaagcgaaggtrigcaacag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTGĠĀĀĊĠĠĀĀĀĀĀĠŦĠĊŦĠĊŦĀĀŦŦĠĀŦĀĠĊĊĠĠĊĊĀŦŦŦĠŦĠĠĀĀŦĀĊĀĀŦĀĊĀŦĊĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Score 906; DB 6; ]
ilarity 100.0%; Pred. No. 7.8e-279;
Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1431 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 5450;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                      780
                                                                                                                                                                                                                                                              1197
                                                                                                                                                                                                                                                                                                                                                               1137
                                                                                                                                                                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         597
```

S 밁 Ś 뫄 Ś β Ş 밁 Ş 망 δ 밁 Ş B Ś В Ś 밁 Ş 뮍 Ś Дb Ş

5450

BP; 1471

A; 1211

C; 1337

ç, 1431 Ţ,

0

٦,

```
The invention relates to a novel isolated nucleic acid comprising a CC polynucleotide having a nucleotide sequence selected from 40 cc polynucleotides fully defined in the specification. The polynucleotide of the invention has antiproliferative, hepatotropic, nephrotropic, contiarthritic, antiproliferative, hepatotropic, nephrotropic, nephrotropic of the invention is useful for preventing, treating or CC polynucleotide may have a use in gene therapy. A polynucleotide or CC polypeptide of the invention is useful for preventing, treating or CC ameliorating a medical condition, e.g. a proliferative disorder. They are CC disorders including arthritis and psoriasts, cardiovascular disorders used as congenital heart defects and congestive heart failure, and CC cancer. A method of the invention is useful for diagnosing a pathological CC condition or susceptibility to a condition in a subject. The present xx
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
ACC6057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                       20-DEC-2000; 2000US-0256868P.
30-MAR-2001; 2001US-0280186P.
01-MAY-2001; 2001US-0287733P.
05-JUN-2001; 2001US-0295848P.
25-JUN-2001; 2001US-0300465P.
                                                                                                                                                                                                                                                                                                                                                                             Jackson
Siemers
                                                                                                                                                                                                                                                                                the
                                                                                                                                                                                                                                                                                            Novel
                                                                                                                                                                                                                                                                                                                                                                                                                      (BRIM )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20-DEC-2001; 2001WO-US050459.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gene; ss; antiproliferative; hepatotropic; nephrotropic; antiarthritic; antipsoriatic; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart defect; congestive heart failure; cancer; human; mouse; yeast; rat; fruitfly.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Polynucleotide relating to the invention SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1572
ACC60572 standard; cDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19-JUN-2003
                                                                                                                                                                                                                                                         el polynucleotides encoding human phosphatase polypeptides useful prevention or treatment of e.g. proliferative and cardiovascular
                                                                                                                                                                                                                                                                                                                    2002-599721/64.
DB; ABR52407.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1318
                                                                                                                                                                                                                             7; Fig 19; 801pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  901
                                                                                                                                                                                                                                                                                                                                                              s, DG
                                                                                                                                                                                                                                                                                                                                                                                                                BRISTOL-MYERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              atatetecaaactiecaatitieereeeccaactecteeactateacaacaacaacaacaac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Feder J, Nelson T,
Bol D, Schieven G,
Mcatee P, Suchard S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                906
                                                                                                                                                                                                                                                                                                                                                                                                               SQUIBB CO.
                                                                                                                                                                                                                             English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ВP
                                                                                                                                                                                                                                                                                                                                                Mintier G, Ramanathan C, Lee L;
Finger J, Todderud CG, Bassolino
, Banas D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NO:
                                                                                                                                                                                                                                                                                                                                                            D;
                                                                                                                                                                                                                                                                           ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1377
```

```
RESULT 4
AAD09492
Human; SGF002 phosphatase polypeptide; phosphatase-related disease; immune-related disorder; ocular disease; organ transplant rejection;
                                                         Human SGP002 phosphatase polypeptide encoding DNA;
                                                                                                                                                              AAD09492
                                                                                                                                                                                                                                                                                                                                                                                                                                                            745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           145
                                                                                                                                                                                                                                                                                106
                                                                                                                                                                                                                                                                                                                      865
                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                         CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         standard; DNA;
                                                                                                                                                                                                                                                                                  CAGACT 906
                                                                                                                                                                                                                                                                                                                                                      ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                       CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGCAGAATGGGATTGGTTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                            (first
                                                                                                                                                                                                                                                 930
                                                                                            entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                      924
                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                         864
                                                                                                                                                                                                                                                                                                                                                                                                                         840
                                                                                                                                                                                                                                                                                                                                                                                                                                                            804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
```

SXXEXEX XXX

S 밁 Ś

61

AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC ATGGCCCATGAGATGATTGGAAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA ATGGCCCATGAGATGAATTGGAACTCAAATTGTTACTGAGAGGGTTGGTGGCTCTGCTGGAA

538

Matches

904;

Conservative

<u>.</u>

Indels

0

Gaps

60

120 597 ঠ 밁 Ş 밁 S 밁 ঠ 밁 S 밁 δ 밁 δ 밁 S 밁 ş 밁 ક 밁 ঠ 밁 S 밁 S 밁 5 밁 Ś

```
The present invention relates to phosphatase polypeptides, nucleotide CC sequences encoding them, as well as various products and methods useful CC for the diagnosis and treatment of various phosphatase-related diseases CC and conditions. Substance that modulates the activity of phosphatase CC polypeptide is used to treat immune-related diseases and disorders, cardiovascular disease, brain or neuronal-associated diseases and CC metabolic disorders, including cancers of tissues, cancers of CC haematopoietic origin, diseases of central and peripheral nervous system, CC halzheimer's disease, Parkinson's disease, multiple sclerosis, amyotrophic CC lateral sclerosis, viral infections, infections caused by prions, conteria and fungi, ocular diseases, diabetes, migraines, pain, sexual CC dysfunction, mood disorders, attention disorders, cognition disorders, CC hypotensian, hypertension, psychotic disorders, neurological disorders, CC dyskinesias and organ transplant rejection. The present sequence is a DNA C encoding human SGP002 phosphatase polypeptide. This sequence is a CC classified as dual specificity phosphatase (DSP) and MAP kinase CC phosphatase (MKP). SGP002 gene maps to chromosomal position 12p11.1-p12.1
                Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21-DEC-1999;
28-DEC-1999;
25-JAN-2000;
31-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     infection; diabetes; pain; sexual dysfunction; Alzheimer's disease; metabolic disorder; haematopoietic cancer; mood disorder; cardiant; parkinson's disease; multiple sclerosis; amyotrophic lateral sclerosis; cardiovascular disease; brain; neuronal-associated disease; dyskinesia; attention disorder; cognition disorder; psychotic disorder; cytostatic; neurological disorder; virucide; nootropic; cerebroprotective; therapy; neuroprotective; antibacterial; vulnerary; tranquilliser; antiasthmatic; hypotensive; amunosuppressive; antipsoriatic; analgesic; hypotrensive; antifungal; dual specificity phosphatase; DSP; MAP kinase phosphatase; MKP; migraine; chromosome 12p11.1-p12.1; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel phosphatase polypeptide useful for treating cancers, immune-related diseases and disorders, cardiovascular disease, brain or neuronal-associated diseases and metabolic disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200146394-A2
                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 29; Fig 1; 186pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (SUGE-) SUGEN
                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2001-418058/44.
DB; AAE04834.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 GD, ...
T. Flanagan
                                                                          2732 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99US-0175766P
2000US-0178078P
2000US-0179301P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Martinez
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000WO-US034736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99US-0173255P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers 538. .2535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /product= "Human SGP002 phosphatase polypeptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /*tag=
                                                                          710 A; 684
                  99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ₽,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Whyte
Score 902.8; DB 4;
Pred. No. 5.6e-278;
0; Mismatches 2;
                                                                          C; 686 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Manning
                                                                          652 T; 0 U;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ဂ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sudarsanam
                                    Length
                                                                          0 Other;
```

```
Query Match
Best Local S
Matches 906
                                                                                                                                                                                                                                                        1318
                                                                                                                                                                                                                                                                                                                                       1258
                                                                                                                                                                                                                                                                                                                                                                                                                       1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1138
                                                                                                                                901
                                                                                                                                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1018
                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          54.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             al Similarity
906; Conserv
                                                                                                                                  CAGACT
                                                                                                                                                            ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGAACTAAGAAC
                                                                                                                                                                                        ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGAATTAAGAAC 900
                                                                                                                                                                                                                                             chádrácactigirinaácinádaanériccederecedecaceanederiatedecinaciated
                                                                                                                                                                                                                                                                                                                                                CTAGTGCACTGTTTAGCTGGGATCTCCCGGTCCGCCACCATCGTTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                               CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                     cceteetreeacaaatcaetaeatricatricaeagaaaecaaaaecticcaategaretri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGCAGAATGGGATTGGTTAATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              acreragiceraceración de artificio a accertacer de consecuente de consecuencion de consecuencion de consecuencion de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuencies de consecuen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           crrecaegregerriecreaerrerererrerreceregecerereaaegaaaaree
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ĠĀĊŦĠŦŦŶŶĊŦĊĀĊŦĠŶĀĊŦŦĊŦĠĠĠŦĀĀĀĊŦĠĠĀĠĀĠĀĠĠŶŦŶĊĀĀĊŶĊŶĠŶŶĊĸĊĊŦĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      réchérichéhaégrigihaégrifihacehitéhahaégricéchháéhitéritécéréricitéritéh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACATTITGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGTGGAÁCGGAÁAAAAGTGCTGCTAÁTTGÁTAGCCGGCCATTTGTGGAÁTÁCAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGACGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%;
                                                                                                                                                                                                                                         PCTTTAGATGAAGCTTACAGATTTGTGAAAGAAAAAAAGACCTACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 906; DB 6; Length 5450;
Pred. No. 7.8e-279;
; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                            1437
                                                                                                                                                                                                                                           1377
                                                                                                                                                                                                                                                                                840
                                                                                                                                                                                                                                                                                                                        1317
                                                                                                                                                                                                                                                                                                                                                               780
                                                                                                                                                                                                                                                                                                                                                                                                     1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1137
                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                     Ş
                                                                                                                                                                  The present sequence is that of cDNA encoding novel human protein CC phosphatase and kinase protein PPHKP-4 (see AAB20325). The cDNA was CC initially identified in Incyte Clone ID No. 1234795CB1, from a foetal CC clung tissue library. Tissues that express PPHKP-4 (as a fraction of total CC cardiovascular (0.154), nervous (0.154) and reproductive (0.154). CC Diseases or conditions associated with tissues expressing PPHKP-4 (as a CC inflammation or trauma (0.308) and cell proliferation (0.231). The CC encoded protein shows homology to mouse neuronal tyrosine threonine CC expression vectors, host cells, antibodies, agonists and antagonists, as methods for diagnosing, treating or preventing disorders (2 disorders, immune system disorders, neurological disorders and cell cc proliferative disorders, including gastrointestinal CC proliferative disorders, including cancer
                                                                      Query Match
Best Local S
Matches 904
                                                                                                                                                 Sequence 2118 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel human protein phosphatase and kinase proteins for diagnosis, treatment and prevention of gastrointestinal, immune system, neurological and cell proliferative disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 5; Page 97-98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2001-244811/25.
P-PSDB; AAB20325.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14-SEP-2000; 2000WO-US025515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (INCY-) INCYTE GENOMICS INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Protein phosphatase and kinase protein; PPHKP-4; human; gastrointestinal disorder; immune system disorder; neurological disorder; cell proliferative disorder; cancer; diagnosis; therapy; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200120004-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human protein phosphatase and kinase protein-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAF30479;
                                                                      904;
                                                                                         Similarity
ATGGCCCATGAGATGGTACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tang YT,
                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99US-0154141P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /*tag= b
/note= "unique 1
1081. .1140
                                                                                                                                         550 A; 552 C; 506 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25. .2025
/*tag= a
163. .222
                                                                                 99.6%;
99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'note= "unique fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bandman O,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 103pp; English.
                                                                  <u>;</u>
                                                         Score 902.8; DB 4;
Pred. No. 4.9e-278;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hillman JL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         fragment"
                                                                                                                                             510
                                                                                                                                    ' T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Baughn MR,
                                                                                                                                         0 U;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDNA
                                                                                                  Length 2118
                                                                                                                                           0
                                                                                                                                           Other,
                                                         0;
                                                       Gaps
```

Ś

밁 Ś 밁 Ş 맑 Ş В δ 밁 Ş 망 Ş 밁 δ 밁

В Ś 문 Ś 밁

RESULT 3
AAF30479
ID AAF3

AAF30479 standard; cDNA; 2118

ВP

밁

25

ategeceátgágátgáttggááctcájáttgttactgagággttggtggectetgetgájá

84

Ş B Ś 닭 ίδ В δ 망 8

```
RESULT 6
ABK4756
ID ABK4
XX ABK4
XX ABK4
XX ABK4
XX COLNA
XX COLNA
XX Huma
XX Huma
XX Hinte
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX Canc
XX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ક
                                                                                                                                                                                                                    mitogen-activated protein kinase; MAP, Duchenne muscular dystrophy; cancer; graft-versus-host disease; allergy; metabolic disease; abnormal cell growth; abnormal cell proliferation; contact inhibition; cell cycle abnormality; anchorage independent cell growth; apoptosis; intercellular adhesion; DSP-16 modulator; chromosome 12p; gene; ss.
                                                                                                                                                                             Homo
                                                                                                                                                                                                                                                                                                                                           Human; dual-specificity phosphatase-3; DSP-16; autoimmune disease;
                                                                                                                                                                                                                                                                                                                                                                                            cDNA encoding human dual-specificity phosphatase-3 (DSP-16) protein
                                                                                                                                                                                                                                                                                                                                                                                                                                               02-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABK47596;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABK47596 standard; cDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      367
                                                                                                                                                                          sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGCAGAATGGGATTGGTTATGTGTTAAATGCCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACTCTAGTCCCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGACT 1032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                       /product= "Human dual-specificity phosphatase-3 (DSP-16)
                                                                                       Location/Qualifiers 562. .2559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               я
                                                                                                               1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                - 1
                                                                                                                      j
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1026
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        966
```

```
5
                                                                                                                                                                                                                                                    18
                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present invention relates to a new polypeptide, DSP-16, having a 665 CC amino acid sequence, given in the specification, or a variant having at CC dephosphorylate an activated microgen-activated protein (Map) kinase. The CC dephosphorylate an activated microgen-activated protein (Map) kinase. The CC invention can be used for identifying agents which modulate DSP-16 CC activity, for modulation of a proliferative response in a cell, survival CC of a cell, or differentiation of a cell. The cell displays contact CC inhibition of cell growth or anchorage independent growth and may display altered intercellular adhesion. The agent may modulate apoptosis, or the CC cell cycle. The identified modulators can be used to treat Duchenne CC muscular dystrophy, cancer, graft-versus-host disease, autoimmune cancell cycle abmormal cell growth, abnormal CC cell proliferation, and cell cycle abmormalities. The present nucleic CC acid sequence is that of the human dual-specificity phosphatase-3 (DSP-CC 16) gene located on chromosome 12p. This sequence encodes the human DSP-CC to protein of the invention
                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                               밁
밁
                        Ś
                                                                 밁
                                                                                              8
                                                                                                                               밁
                                                                                                                                                         Ś
                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 3496 BP; 939 A; 854 C; 856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New DSP-16 polypeptide, useful for identifying modulators of its activity, which can be used in the treatment of disorders such as Duchenne muscular dystrophy, or cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25-SEP-2001; 2001WO-US030124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200226997-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 7; Fig 1; 87pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P-PSDB; AAU79156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2002-315802/35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26-SEP-2000; 2000US-0235487P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (CEPT-) CEPTYR INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local
 922
                                                                   862
                                                                                                                                                                241
                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                  682
                                361
                                                                                                  301
                                                                                                                                                                                                 742
                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                622
                                                                                                                                                                                                                                                                                                                                                                                                  562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                904;
                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                               ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                             CACATTTTGGAAGCCATTAATATCAACTGĆTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180
                                                                                                                                                                                                                                                                                                                                                   AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                           GACTGTTTTCTCACTGTACTTCTGGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG 360
                                                                                                                                                  GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
 CTTGCAGGI
                        CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                   GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 902.8; DB 6;
Pred. No. 6.5e-278;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ຸດ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              847 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 3496;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <u>,</u>
```

Gaps

0

189 120 621 60

S

/,421

ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC

480

981

420 921 861

240

```
RESULT 5
AAS15768
ID AAS1
XX AAS1
AC AAS1
XY IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX IS-J
XX I
neuronal degeneration syndrome; Alzheimer's disease; depression; schizophrenia; asthma; immune disorder; inflammatory process; arthritis; osteoporosis; diabetes; gene therapy; chromosome 12; ss.
                                                                                              Human; dual specificity phosphatase; DUSP-10; cancer;
                                                                                                                                                                                                                                         18-JUN-2002
                                                                                                                                                                                                                                                                                                  AAS15768;
                                                                                                                                                                                                                                                                                                                                                           AAS15768
                                                                                                                                                                          sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                    standard; cDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGACT 1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATATCTCCAAACTTCAATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAGAGGATGGAČATGTCTTTĀĠĀTGĀĀĠĊŦTĀCĀĠĀŤŦŤĠŦĠĀĀĀĠĀĀĀĀĀĀĀĠĀĊĊŦĀĊŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ctadrideactortiadectidada retecede concesco de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contesta de contest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTAGTGCACTGTTTAGCTGGGATCTCCCCGCTCCGCCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCGTGGTTGGACAAATCAGTAGATTTCAGTTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 arccccgágrereatrrecrigegrigicergraargacagerrrigigagaaaatrrrg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGCAGAATGGGATTGGTTATGTGTTAAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         acterágrécerácergearriereageerracergrigeeageaacarreggeeaace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ĊŦŦĠĊĀĠĠŦĠĠĠŦŦŦĠĊŦĠĀĠŦŦĊŦĊŦĊĠŦŦĠŦŦŦĊĊĊŦĠĠĊĊŦĊŦĠŦĠĀĀĠĠĀĀĀĀŦĊĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  récadréadaadorretadritadeareaadereceaadarerrecererererea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ĠĀĊĀĀĀĠTĠŤŤĀĀŤŤĀĊĀĠĀĠĊŤĊĀŤĊĊĀĠĊĀŤŤĊĀĠĊĠĀĀĀĊĀŤĀĀĠĠŤŤĠĀĊĀŤŤĠĀŢ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACAAAGTGTTAATTACAGAGCTCATCCAGCGTTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                 of human (dual specificity phosphatase) DUSP-10.
                                                                                                                                                                                                                                      (first
                                                                                                                                                                                                                            entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    regeccaacticctegactatgagaagaagattaagaac
                                                               ; epilepsy; stroke; depression;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      777
                                                  B
                                                                                                           Ś
                                                                                                                                                                          밁
                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                              181
```

S

밁 Ś ₽ Ś В Ś 멍 Š Б Ś 당 Ş ğ Ś 맑 Ś 밁 Ś 밁 S 밁 Ś В \$

밁 δ 밁

```
The present invention relates to a new isolated dual specificity CC phosphatase (DUSP10) polypeptide, comprising a 665 residue amino acid CC sequence that is fully defined in the specification. The invention also provides a sequence encoded by a 3059 nucleotide sequence fully defined in the specification, and a sequence having at least 95 % identity to the compression, and a sequence having at least 95 % identity to the compression, and a sequence having at least 95 % identity to the compression, and a sequence having at least 95 % identity to the compression, and a sequence having at least 95 % identity to the compression, and a sequence having at least 95 % identity to the compression, and a sequence having at least 95 % identity to the compression, and a sequence relation space of the invention is useful conformation, cardiac myourophies, asthma, immune disorders, conformation, are also useful as vaccines for inducing immunological conformation are also useful as vaccines for inducing immunological conformation are also useful as vaccines for inducing immunological conformation are also useful as vaccines for inducing immunological conformation are also useful as vaccines for inducing immunological conformation are also useful as vaccines for inducing immunological conformation are also useful as vaccines for inducing immunological conformation are also useful as vaccines for inducing immunological conformation are also useful as vaccines for inducing immunological conformation are also useful as vaccines for inducing immunological conformation are also useful as vaccines for inducing immunological conformation are also useful as vaccines for inducing immunological conformation are also useful as vaccines for inducing immunological conformation are also useful as vaccines for inducing immunological conformation are also useful as vaccines for inducing immunological conformation are also useful as vaccines for inducing immunological conformation are also useful as vaccines for inducing immunological conformat
                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 5; Page 34-37; 43pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Novel dual specificity phosphatase polypeptides useful for treating cancers, epilepsy, stroke, neuronal degeneration syndromes, Alzheimer's disease, depression, schizophrenia, asthma and immune disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                06-APR-2001; 2001WO-EP003966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (MERE ) MERCK PATENT GMBH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200177340-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18-OCT-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2002-010917/01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sapiens.
                                 3059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAU09946.
                           BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000EP-00107143
     831 A; 761 C; 709 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
127. .2124
/*tag= a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /*tag= a
/product= "DUSP-10 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        English.
     758 T;
0 U; 0 Other;
```

```
307
                                                                                          247
                                                                                                                   121
                                                                                                                                              187
                                                                                                                                                                                                  127
                                                                                                                                                                      61
                                                                                                                                                                                                                                                      904;
                                                                                                                                                                                                                            H
                                                                                                                                                                                                                                                                 Similarity
GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                            GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                             CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                  AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                  AGTGGAACGGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120
                                                                                                                                                                                      ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                       ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                              99.6%;
                                                                                                                                                                                                                                           Score 902.8; |
Pred. No. 6e-2
0; Mismatches
                                                                                                                                                                                                                                                          902.8; DB 6
                                                                                                                                                                                                                                                2;
                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                           Gaps
                                                   240
                                                                               306
                                                                                                         180
                                                                                                                                  246
                                                                                                                                                                                        186
```

6;

Length 3059;

```
ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ş
The present invention relates to new nucleic acids designated 38692 and 21117 encoding dual specificity phosphatase family members. The nucleic acid, polypeptide encoded by it, and antibody specific for the
                                                                                                                                                                                                                                                                                                                                                                                                  Human; dual specificity phosphatase 21117; erythroid-related disorder; haematopoietic-related disorder; leukaemia; autoimmune disease; anaemi erythrocytosis; liver-related disorder; cancer; gene; ss.
                                             Claim 2; Fig 1; 76pp;
                                                                               New nucleic acids passignated 38692 and 21117, encoding dual specificity phosphatases for treating cell proliferation and differentiation disorders including hematopoietic and erythroid-related disorders and
                                                                                                                                                                Meyers
                                                                                                                                                                                                              24-MAR-2000;
                                                                                                                                                                                                                                    23-MAR-2001;
                                                                                                                                                                                                                                                                                    US2002034807-A1.
                                                                                                                                                                                                                                                                                                                                                                               Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABK49402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1249
                                                                                                                                          2002-351088/38
                                                                                                                                                                                                                                                                                                                                                                             sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                 encoding human dual specificity phosphatase 21117 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                              RA
                                                                                                                                                                                     MEYERS
                                                                                                                              AAU79929.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           standard; cDNA; 3544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGACT 1494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                              2000US-0191858P
                                                                                                                                                                                                                                     2001US-00816494.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first
                                                                                                                                                                                      R A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       906
                                                                                                                                                                  ÷
                                                                                                                                                                                                                                                                                                         /*tag= a
/product= "Human dual
/note= "Specifically (
                                                                                                                                                                                                                                                                                                                                          Cocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         entry)
                                             English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ВP
                                                                                                                                                                                                                                                                                                          l specificity phosphatase claimed in claim 2"
                                                                                                                                                                                                                                                                                                                                                                                                                  anaemia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                  δ
                                         멍
                                                              S
                                                                                            밁
                                                                                                             Ş
                                                                                                                                     밁
                                                                                                                                                                                      밁
                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                           á
                                                                                                                                                                                                                                                                                  뮍
                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            polypeptide may be used to diagnose and treat haematopoietic-related disorders such as leukaemias and autoimmune diseases, erythroid-related disorders such as anaemias and erythrocytosis, liver-related disorders, and cancers, particularly of the breast, colon, adipose, prostate and lung. The present nucleic acid sequence encodes the human dual specificity phosphatase 21117 protein of the invention, as described
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 3544 BP; 1000 A;
                                               1369
                                                                                             1309
                                                                                                                                          1249
                                                                                                                                                                                         1189
                                                                                                                                                                                                                                      1129
                                                                                                                                                                                                                                                                                    1069
                                                                                                                                                                                                                                                                                                                                 1009
                        841
                                                                       781
                                                                                                                                                                  661
                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                               949
                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                            889
                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  589
                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              904;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGGCCCATGAGATGGTTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                            CTAGTGCĂCTGTTTAGCTGGGATCTCCCGCTCCGCCACGATCGCTATCGCCTACATCATG
                                                                                                                                                         CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                          ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                      CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                       CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                    CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                  ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                               ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                               CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                            CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                              GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                  ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC
                                                             CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                         ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
   ATATCTCCAAACTTCAATT
                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            840 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           902.8;
No. 6.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            G; 882 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3; DB 6;
5.5e-278;
nes 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ų;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                            900
                                                                                                                                                                                                                                        1188
                                                                                                                                                                                                                                                                600
                                                                                                                                                                                                                                                                                      1128
                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                    1068
                                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                  1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
      1488
                                                  1428
                                                                                               1368
                                                                                                                                             1308
                                                                                                                                                                                          1248
                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                              948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                        840
                                                                                                                                                                   720
                                                                                                                                                                                                                660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
```

```
RESULT 7
AAS14639
                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     片
WPI; 2001-611635/70
                                     (MILL-)
                                                                    23-MAR-2001; 2001WO-US009477
                                                                                                             WO200173059-A2
                                                                                                                                                                                                rheumatoid arthritis; multiple sclerosis; Crohn's disease; liver disorder; erythroid associated disorder; haemolytic an cellular proliferative; differentiative disorder; leukaemia;
                                                                                                                                                                                                                         Human; ss; dual specificity phosphatase 21117; hepatotropic; cy hematopoietic disorder; autoimmune disorder; diabetes mellitus;
                                                                                                                                                                                                                                                      Human cDNA encoding dual specificity phosphatase 21117.
                                                                                                                                                                                                                                                                                  18-DEC-2001
                                                                                                                                                                                                                                                                                                                     AAS14639 standard;
                                                                                                                                                                              sapiens.
                                                                                                                                                                                                                                                                                                                                                                      1462
                                                                                                                                                                                                                                                                                                                                                                                                          1402
                                                                                                                                                                                                                                                                                                                                                                                                                                              1342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1282
                                                                                                                                                                                                                                                                                                                                                                                       901
                                                                                                                                                                                                                                                                                                                                                                                                                            841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1162
                                 MILLENNIUM PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          982
                                                                                                                                                                                                                                                                                                                                                                                      CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                               ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                   CAGACT 1467
                                                                                                                                                                                                                                                                                                                                                                                                          ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                  angaggatggacatgtetttägatgaagettaeaetttetgaaagaaaaaaaaacettaet
                                                                                                                                                                                                                                                                                                                                                                                                                                              cradrideacridritaderidddarereederieddeachedareddriarederiaeareard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCGTCGCTATCGCCTACATCATCATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAATTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGCAGAATGGGATTGGTTAATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ĊĀĠĊĀĠĀĀŦĠĠĠĀŦŦĠĠŦŦĀŦĠŦĠŦŦĀĀĀŦĠĊĊĀĠĊĀĀŦĀĊĊŦĠŤĊĊĀĀĀĠĊĊŦĠĀĊŦŦŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-0191858P
                                                                                                                                                                                            leukaemia; carcinoma;
                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                 Location/Qualifiers 589. .2586
                                                                                                                      /product= "Dual specificity phosphatase
                                                                                                                                     /*tag=
                                                                                                                                                                                                                                                                                                                    CDNA;
                                                                                                                                                .2586
                                                                                                                                                                                                                                                                                                                    3544
                                                                                                                                                                                                                                                                                                                    В₽
                                                                                                                                                                                       sarcoma; metastatic cancer.
                                                                                                                                                                                                         anaemia;
                                                                                                                                                                                                                                    cytostatic;
                                                                                                                                                                                                                                                                                                                                                                                               1461
                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                                                  1401
                                                                                                                                                                                                                                                                                                                                                                                                                                                     840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1041
  Ś
                     맑
                                     Ş
                                                         밁
                                                                         Ş
                                                                                               片
                                                                                                              Ş
                                                                                                                                  В
                                                                                                                                                    Ś
                                                                                                                                                                        맑
                                                                                                                                                                                      Ş
```

Query Match Best Local

Similarity

Length 3544;

Sequence 3544 BP; 1000 A; 840 C; 822 G; 882 T; 0 U; 0 Other;

```
\mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} \mathbf{g}_{\mathbf{x}} 
                                                                                The invention relates to two novel human dual specificity phosphatases CC designated 21117 and 38692, the nucleic acids encoding them (including the grapments, allelic variants, their complements or nucleic acids that CC fragments and antibodies raised against the proteins. The CC antibody is useful for detecting the presence of the polypeptide, and the CC nucleic acid fragments are useful for detecting the presence of the CC nucleic acid, for diagnosing disease. Agents (e.g. the antibody and cc nucleic acid, for diagnosing disease. Agents (e.g. the antibody and CC of the polypeptide/nucleic acid, useful for modulating the activity or expression CC nisted arthritis, multiple sclerosis, Crohn's disease and many others (cc disorders (e.g. haemolytic anaemia) cellular proliferative or carcinomas, sarcomas, metastatic cancers. Agents modulating 21117 and CC migration or differentiation of a 38692 or 21117-expressing cell. The CC agents. The present sequence encodes the dual specificity phosphatase CC 21117.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New human dual specificity polypeptides and nucleic of disease and treatment of e.g. liver disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P-PSDB; AAU09016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1; Fig 1; 143pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       acids for diagnosis
```

멍 Ś 밁 Ş 밁 Ś 문 Ş Best Local Sim Matches 904; 1069 1009 481 421 949 361 688 301 829 241 181 709 121 649 589 61 μ CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA ĊĠĀĀŦŤĊŤŤĊĊĊĀĀŤĊŤŤŤŖĬĊŤŤĠĠĊŤĠĊĊĀĠĊĠĀĠĀŤĠŤĊĊŤĊĀĀĊĀĀĠĠĀĠĊŤĠĀŤĠ ACTOTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTTGGCCTCTGTGAAGGAAAAATCC 420 ĊŦŦĠċĀĠĠſŧĠĠĠŦŶŦĠĊŦĠĀĠŦŶĊŦĊĠŦŦĠŦŦŶĊĊĊŦĠĠĊĊŤĊŢĠŦĠĀĀĠĠĀĀĀġŦĊĊ ĠĀĊŦĠŦŤŦŤĊŤĊĀĊŤĠŦĀĊŤŤĊŤĠĠĠŦĀĀĀĊŤĠĠĀĠĀĀĠĀĠĊŤŤĊĀĀĊŤĊŦĠŦŤĊĀĊĊŦĠ GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG récherchedadegrieraerracearcanagereceandarerrecerererea ĠAĊĀĀĀĠŦĠŦŦĀĀŦŦĀĊĀĠĀĠĊŦĊĀŦĊĊĀĠĊĀŦŦĊĀĠĊĠĀĀĀĊĀŦĀĀĀĠŦŦĠĀĊĀŦŦĠĀŦ GACAAAGTGTTAATTACAGAAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC ĊĀĊĀTŤŤŤĠĠĀĀĠĊĊĀŤŤĀĀŤĀŤĊĀĀĊŤĠĊŤĊĆĀĀĠĊŤŤĀŤĠĀĀĠĊĠĀĀĠĠŤŤĠĊĀĀĊĀĠ CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCCGGCCATTTTGTGGAATACAATACATCC 120 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60 arddcccardadardarrddaacrcaaarrdrracrdadaddgriddredcrcrdcrddaa Conservative 99.6%; Score 902.8; DB 5; Pred. No. 6.5e-278; 0; Mismatches 2; Indels 0; Gaps 600 1128 1068 540 480 1008 948 360 888 300 828 768 180 708 648

ĊĀĠĊĀĠĀĀŤĠĠĠĀŤŤĠĠŤŤĀŤĠŤĠŤŤĀĀĀŤĠĊĊĀĠĊĀĀŤĀĊĊŤĠŤĊĊĀĀĀĠĊĊŤĠĀĊŤŤŤ

```
840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              780
                                                                                           420
                                                                                                                                                                                                540
                                                                                                                                                                                                                                                   900
                                                                                                                                                                                                                                                                                                      999
                                        360
                                                                 543
                                                                                                                     603
                                                                                                                                               480
                                                                                                                                                                      663
                                                                                                                                                                                                              CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGAGCTGATG 723
                                                                                                                                                                                                                                                                            783
                                                                                                                                                                                                                                                                                                                                843
                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                                                                                                                                                 903
                                                                                                                                                                                                                                                                                                                                                                                                                                   CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG 963
               483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human; prostate cancer; cytostatic; carcinogen; pharmacodyanamic marker; pharmacogenomic marker; gene; 88.
                                                                                                                                                                                                                                                                  GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                       GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGGTTCAACTCTGTTCACCTG
                                                                                            CTTGCAGGTGGGTTTGCTGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                     criccaegregerriecreagricreregrerriecresecresecresaggaaaggaaaree
                                                                                                                                                ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                      Acteragiceraceracidescriterescritectraceratisecaacarisesceaace
                                                                                                                                                                                                 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                    CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                      ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                     CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                         CCGTGGTTGGAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                           CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human prostate expression marker cDNA 20824.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-018319P.
2000US-0189862P.
2000US-0207454P.
2000US-0211314P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20-FEB-2001; 2001WO-US005171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                standard; cDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGACT 1089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200160860-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            16-MAR-2000;
25-MAY-2000;
09-JUN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                       904
                                                                    484
                                                                                                                                                                         604
                                                                                                                                                                                                                           664
                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                  784
                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                    844
                                                                                                                                                                                                                                                                                                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABV20833;
                                          301
                                                                                              361
                                                                                                                        544
                                                                                                                                                421
                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABV20833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABV20833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                          ò
                                                                    유
                                                                                              ઠે
                                                                                                                    g
                                                                                                                                                à
                                                                                                                                                                      g
                                                                                                                                                                                                   à
                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                       ઠ
                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                     원
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ଚ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <u>CACÁTTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 363</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            364 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Genes and their expression products cloned from human cDNA libraries for treatment and diagnosis of diseases associated with their expression.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to DNA encoding polypeptides directly cloned from cDNA libraries originating in adult whole brain, human tonsil, human adult hippocampus and human foetal whole brain. Polypeptides and polynucleotides of the invention may be used in the investigation of differential expression of the DNA sequences in normal subjects and disease patients. They may also be used in the production of antibodies, oligonucleotide probes and DNA chips for diagnosis and identification of drugs for treatment of diseases with which the DNA sequences are associated. The sequences given in records ABN83954-ABN83984 represent human gene sequences of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 ATGCCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                     ₫₿.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                    Human; brain; tonsil; hippocampus; foetal brain; diagnosis; gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 4790 BP; 1293 A; 1064 C; 1152 G; 1281 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 4790;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 902.8; DB 6;
Pred. No. 7.7e-278;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 1(a); Page 111-117; 238pp; Japanese.
                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                      Nakajima D;
                               BP.
                                                                                                                                                                                                                                                                                                                       22-DEC-2000; 2000JP-00389742.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99.6%;
                               standard; DNA; 4790
                                                                                                                                                                                                                                                                                              20-DEC-2001; 2001WO-JP011217
                                                                                                                                                                                                                                                                                                                                               KAZUSA DNA RES INST
CELESTAR LEXICO-SCI
                                                                                                                                                                                                   184. .2181
/*tag= a
                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 99.8
Matches 904; Conservative
                                                                                                             Human gene sequence #13
                                                                                                                                                                                                                                                                                                                                                                                      Ohara O, Nagase T,
                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2002-500762/53
                                                                                                                                                                                                                                                                                                                                                                                                                             P-PSDB; ABB97946
                                                                                                                                                                                                                                            WO200252005-A1
                                                                                                                                                               Homo sapiens
                                                                                   06-SEP-2002
                                                                                                                                                                                                                                                                    04-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                               ABN83966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                         ABN83966
                                                                                                                                                                                                                                                                                                                                              (KAZU-)
(CELE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local (
      RESULT 10
```

셤

셤 ઠે 용 ò 요

ò

ò

of the invention

(AAU75783-AAU75792)

SXS

```
Human; protein phosphatase 7; PP7; immune system disorder; AIDS; acquired immunodeficiency syndrome; thymic hypoplasia; anaemia; asthma; Crohn's disease; neurological disorder; epilepsy; Huntington's disease; dementia; Parkinson's disease; developmental disorder; Down's syndrome; cell proliferative disorder; cancer; adenocarcinoma; leukaemia; lymphoma; melanoma; myeloma sarcoma; gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present invention relates to a new polypeptide, a naturally occurring amino acid sequence at least 95 $ identical to it, a biologically active fragment of it to an immunogenic fragment of it. The polypeptides, polymuclectides, agonists and antagonists are useful for diagnosing, treating or preventing disorders associated with aberrant expression of acquired immunodeficiency syndrome (AIDS), thymic hypoplasia, anaemia, asthma or Crohn's disease, meurological disorders e.g. epilepsy, disorders e.g. epilepsy, disorders e.g. to cell proliferative disorders e.g. disorders e.g. cencers including adenocarcinoma, leuksemia, llymphoma, melanoma, myeloma or sarcoma. The present nucleic acid sequence encodes human protein phosphatases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New protein phosphatases, useful for diagnosing, treating or preventing immune system disorders (e.g. Crohn's disease), neurological disorders (e.g. Parkinson's disease), or cell proliferative disorders (e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ramkumar J, Yao MG, Burford N, Wang YE;
, Patterson C, Lee EA, Hafalia AJA, Lu DAM;
JA, Baughn MR, Yue H, Warren BA, Nguyen DB;
                                                                                                                                                                                                                                                                                                                                                                                                                           /*tag= a
/product= "Protein_phosphatase_7_(PP7)"
                                                                                                                                                                                                          Human protein phosphatase 7 (PP7) cDNA seguence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 5; Page 114-115; 117pp; English.
                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
538. .2535
                                                                                                             ABK14474 standard; cDNA; 3766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    03-AUG-2000; 2000US-0223272P.
10-AUG-2000; 2000US-0224309P.
18-AUG-2000; 2000US-0224389P.
30-AUG-2000; 2000US-02538P.
08-SEP-2000; 2000US-0231366P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    lliott VS, Ramkum
Gandhi AR, Patt
M, Griffin JA, F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26-JUL-2001; 2001WO-US023716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (INCY-) INCYTE GENOMICS INC.
                                                                                                                                                                              (first entry)
                             1489 CAGACT 1494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Stewart EA, Gandhi Ai
Tribouley CM, Griffin
Walia NK, Kearney L;
   906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2002-188735/24.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Elliott
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   P-PSDB; AAU75789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200210363-A2
                                                                                                                                                                           08-MAY-2002
                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-JUL-2000;
                                                                                                                                             ABK14474;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tang YT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cancers)
                                                                                                                                          ठ
                           셤
```

```
597
                                                                                         120
                                                                                                                         180
                                                                                                                                                                                                                                                                                                             1017
                                                                                                                                                                                                                                                                                                                                             1077
                                                                                                        657
                                                                                                                                         717
                                                                                                                                                          240
                                                                                                                                                                          777
                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                       CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT 1137
                                                                                                                                                                                                                                                                                                                                                                                                              1197
                                                                                                                                                                                                                                                                                                                                                                                                                                               1257
                                                        9
                                                                                                                                                                                                           837
                                                                                                                                                                                                                      GACTGITITCTCACTGIACTTCTGGGIAAACTGGAGAAAGAGCTTCAACTCTGITCACCTG
                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                            957
                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1377
                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1437
                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGATTAAGAAC 900
                                                  1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGGAA
                                                            AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                             CACATTITIGGAAGCCATTAATATCAACTGCTCCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                               TGCAGTCAGAAGGTTGTAGTTTTACGATCAAAGCTCCCAAGATGTTGCCTCTCTTCA
                                                                                                                                                    GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAAGGTTGACATTGAT
                                                                                                                                                                                                    CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                  CITGCAGGIGGGITIGCIGAGIICTCICGCTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                      ACTCTAGTCCCTACCTGCATTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                  CAGCAGAATGGGATTGGTTAATGCCAGGTAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                        ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                         CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                   CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                      Length 3766;
Sequence 3766 BP; 1011 A; 903 C; 918 G; 934 T; 0 U; 0 Other;
                   Score 902.8; DB 6;
Pred. No. 6.7e-278;
0; Mismatches 2;
                  99.6%;
                         Best Local Similarity 99.8
Matches 904; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGACT
                                                                                   61
                                                                                                   598
                                                                                                                    121
                                                                                                                                    658
                                                                                                                                                     181
                                                                                                                                                                                    241
                  Query Match
                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                       868
                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                       928
                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                                                                                        1078
                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                         1138
                                                                                                                                                                                                                                                                                                                                                                                                                                          1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            901
                                                                임
                                                  ò
                                                                                                PP
                                                                                 ò
                                                                                                                  ò
                                                                                                                               셤
                                                                                                                                                   ò
                                                                                                                                                                 셤
                                                                                                                                                                                   ò
                                                                                                                                                                                                    셤
                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                    임
                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                    οqα
                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                         ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db
```

```
S
                                                                                                                                                                                        ક
                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5
                ક
                                                                          ð B
                                                                                                                                                                     밁
                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local S
Matches 904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a patient is afflicted with prostate cancer; (b) monitoring the progression of prostate cancer in a patient; (c) assessing the efficacy of a test compound to inhibit prostate cancer in a patient; (d) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (e) selecting a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate cell carcinogenic potential of a compound; (g) determining whether prostate cancer has metastasized in a patient; (h) assessing the aggressiveness or indolence of prostate cancer in a patient; (l) is also useful as a pharmacodyanamic or pharmacogenomic marker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to an isolated nucleic acid molecule (I) comprising a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for: (a) assessing whether
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel isolated nucleic acid molecule associated with cancerous state of prostate cells and correlating with presence of prostate cancer, useful for detecting presence of prostate cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 5145 BP; 1408 A; 1135 C; 1253 G; 1346 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 1; Page 3419; 11750pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18-JUL-2000;
13-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (MILL-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
1129
                                                      1069
                                                                                                              1009
                                                                                                                                         421
                         541
                                                                                                                                                                        949
                                                                                                                                                                                                 361
                                                                                                                                                                                                                                688
                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                        829
                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             589
                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                769
                                                                                                                                                                                                                                                                                                                                                                                                          709
                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  904;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ,,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MILLENNIUM PREDICTIVE MEDICINE
                  CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                       CTTGCAGGTGGGTTTTGCTGAAGTTCTCTCTGTTGTTTTCCCTGGCCTCTGTGAAGGAAAAATCC
                                                                                                                                                                                                                                GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                        GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                  GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                          CACATTTI
                                                                                                                                                                                                                                                                                                                                                                                                                                     CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTTGGTGGCTCTGCTGGAA
                                                                                   CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                        CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-0219007P.
2000US-0255281P.
                                                                                                                                                                                                                                                                                                                                                                                                           GGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Monahan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 902.8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No. 8e-:
); Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 No. 8e-278;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0 U; 3 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                      CAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                      1128
                         600
                                                                                                                1068
                                                                                                                                           480
                                                                                                                                                                                                                                                                                        888
                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                 828
                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                        1008
                                                                                                                                                                                                   420
                                                                                                                                                                                                                                948
                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                           768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
```

```
RESULT 12
ABV21080
ID ABV22
XX ABV2
XX ABV2
XX Huma
XX Huma
XX Huma
XX Homc
XX Homc
XX Homc
XX Homc
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX I1-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR 15-1
PR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17-FEB-2000; 2000US-0183319P.
16-MAR-2000; 2000US-0189862P.
25-MAY-2000; 2000US-0207454P.
09-JUN-2000; 2000US-0211314P.
18-JUL-2000; 2000US-0219007P.
13-DEC-2000; 2000US-0255281P.
                                                                                                                                                                                                                                   Novel isolated nucleic acid molecule associated with cancerous state prostate cells and correlating with presence of prostate cancer, use for detecting presence of prostate cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; prostate pharmacogenomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20-FEB-2001; 2001WO-US005171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200160860-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13-SEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABV21080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABV21080
                                                                                                                                                                                                                                                                                                                                                                                                                               (MILL-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1189
                                                                                                                                                                                                                                                                                                                                      2001-662795/76.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              prostate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -2002
                                                                                                                                                                                                                                                                                                                                                                                                                                  MILLENNIUM
                                                                                                                                                                                                                                                                                                                                                                                ₽,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           standard; cDNA; 5145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGTGGTTGGACAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAAGAAAAAAAGACCTACT
                                                                                                                                                                                                                                                                                                                                                                              Endege
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                expression marker cDNA 21071.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           marker;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            906
                                                                                                                                                                                                                                                                                                                                                                                                                                  PREDICTIVE
                                                                                                                                                                                                                                                                                                                                                                                   Ŏ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cytostatic;
                                                                                                                                                                                                                                                                                                                                                                                     Monahan
                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDICINE
                                                                                                                                                                                                                                                                                                                                                                                     Œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    carcinogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    pharmacodyanamic
                                                                                                                                                                                                                                                              tate of
useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1248
```

The invention relates to an isolated nucleic acid molecule (I) comprising a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for: (a) assessing whether a patient is afflicted with prostate cancer; (b) monitoring the progression of prostate cancer in a patient; (c) assessing the efficacy of a test compound to inhibit prostate cancer in a patient; (d) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient;

Claim

۲.

Page 3481; 11750pp;

English.

```
δ
                                                                          밁
                                                                                            Ş
                                                                                                                     рь
                                                                                                                                               Ś
                                                                                                                                                                                               Ş
                                                                                                                                                                           뭐
                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                               ş
                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                           맑
                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ន្តន្តន្តន្តន្ត
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query
Best ]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 904;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 5145 BP; 1408 A; 1135 C; 1253 G; 1346 T; 0 U; 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (e) selecting a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate cell carcinogenic potential of a compound; (g) determining whether prostate cancer has metastasized in a patient; (h) assessing the aggressiveness or indolence of prostate cancer in a patient; (I) is also useful as a pharmacodyanamic or pharmacogenomic marker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           y Match
Local :
                                                                                                                           1309
                                                                                                                                                                         1249
                                                                                                                                                                                                                          1189
                                                                                                                                                                                                                                                                           1129
                                                                                                                                                                                                                                                                                                                           1069
                                                                                                                                                                                                                                                                                                                                                                           1009
                                                                                                 781
                                                                                                                                                                                                 661
                                                                                                                                                 721
                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                             949
                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       L
                ATATETECAAACTTEAATTTTETGGGCCAACTCETGGACTATGAGAAGAAGAATTAAGAAE
CAGACT 906
                              ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                aagaggarggacatgrettragargaagettraeagartregtgaaagaaaaaaaagacetaet
                                                                                 CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCCTATCGCCTACATCATG
                                                                                                                CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTCTT
                                                                                                                                                                                CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                  ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                ĊĀĠĊĀĠĀĀŦĠĠĠĀŦŦĠĠŦŦĀŦĠŦĠŦŦĀĀĀŦĠĊĊĀĠĊĀĀŦĀĊĊŦĠŦĊĊĀĀĀĠĊĊŦĠĀĊŤŦŦ
                                                                                                                                                                                                                                                                                CAGCAGAATGGGATTGGTTAATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                cGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                  ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                 ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                  ĊŦŦĠĊĀĠĠŦĠĠĠŦŦŦĠĊŦĠĀĠŦŦĊŦĊĠŦŦĠŦŦŦĊĊĊŦĠĠĊĊŦĊŦĠŦĠĀĀĠĠĀĀĀĀŦĊĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CACATTITGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ĠĀĊĀĀĀĠŦĠŦŤĀĀŤŦĀĊĀĠĀĠĊŤĊĀŦĊĊĀĠĊĀŦŤĊĀĠĊĠĀĀĀĊĀŦĀĀĠĠŦŤĠĀĊĀŦŤĠĀŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   argececargagargarriggaacreaaarrgriacrgagaggriggriggecegerggaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGTGGAĀCGGAĀĀĀGTGCTĀĀTTGĀTĀĠCCGGCCĀTTTGTGGĀĀTĀĊĀĀTĀCĀŤCĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 902.8;
Pred. No. 8e-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8e-278;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                1488
                                        900
                                                                1428
                                                                                        840
                                                                                                                1368
                                                                                                                                       780
                                                                                                                                                                1308
                                                                                                                                                                                                                  1248
                                                                                                                                                                                                                                          660
                                                                                                                                                                                                                                                                  1188
                                                                                                                                                                                                                                                                                                                  1128
                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                  1068
                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                   1008
                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
```

밁

```
RESULT 13
ABV26680
AID VARCE
AXX ABV26
AXX ABV26
AXX ABV26
AXX ABV26
AXX ABV26
AXX Human
AXX Human
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX Homo
AXX
                                              S
                                                                                             밁
                                                                                                                                                     8
                                                                                                                                                                                                                뮍
                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to an isolated nucleic acid molecule (I) comprising a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for: (a) assessing whether progression of prostate with prostate cancer; (b) monitoring the a patient is afflicted with prostate cancer; (c) assessing the efficacy of a test compound to inhibit prostate cancer in a patient; (d) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (e) assessing the composition for inhibiting prostate cancer in a patient; (f) assessing the prostate cell carcinogenic potential of a compound; (g) assessing the aggressiveness or indolence of prostate cancer in a patient determining whether prostate cancer has metastasized in a patient in assessing the aggressiveness or indolence of prostate cancer in a patient; (II) is also useful as a pharmacodyanamic or pharmacogenomic marker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17-FEB-2000; 2000US-0183319P.
16-MAR-2000; 2000US-0189662P.
25-MAY-2000; 2000US-0207454P.
09-UUN-2000; 2000US-0211314P.
18-JUL-2000; 2000US-0219007P.
13-DEC-2000; 2000US-0255281P.
                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 5145 BP; 1408 A; 1135 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel isolated nucleic acid molecule associated with cancerous state prostate cells and correlating with presence of prostate cancer, usef for detecting presence of prostate cancer, stage of prostate cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 1; Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2001-662795/76.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (MILL-) MILLENNIUM PREDICTIVE MEDICINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20-FEB-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            human; prostate pharmacogenomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABV26680;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABV26680
                                                 121
                                                                                                      649
                                                                                                                                                                                                                589
                                                                                                                                                                                                                                                                                                              904;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      prostate expression marker cDNA 26671.
                                                                                                                                                                                                                                                                                                                                                    Similarity
CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                      ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTTGGTGGCTCTGCTGGAA 60
                                                                                                                     AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                           ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGACT
                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Endege
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5388-5389; 11750pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2001WO-US005171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         marker;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1494
                                                                                                                                                                                                                                                                                                                                              99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cDNA; 5145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cytostatic; carcinogen; pharmacodyanamic gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Monahan
                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                           Score 902.8; DB
Pred. No. 8e-278;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ďΕ
                                                                                                                                                                                                                                                                                                                                                                                                                              1253
                                                                                                                                                                                                                                                                                                                                                                                                                     G; 1346 T; 0 U; 3 Other;
                                                                                                                                                                                                                                                                                                                                                                DB 5;
                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                5145;
                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        marker;
                                                                                                                                          120
                                                                                                                                                                                           648
```

```
RESULT 14
ABV20978
ID ABV20
XX ABV20
XX ABV20
XX ABV20
XX ABV20
XX Human
XX Human
XX Human
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX Pharn
XX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઈ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             · 충 · 충
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                   맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                 Human; prostate cancer; cytostatic; carcinogen; pharmacogenomic marker; gene; ss.
  23-AUG-2001
                                       WO200160860-A2
                                                                                                                                                                          Human prostate expression marker cDNA 20969
                                                                                                                                                                                                                      13-SEP-2002
                                                                                                                                                                                                                                                                                                ABV20978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        standard; cDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGCAGAATGGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTGCAGGTGGGTTTGCTGAGGTTCTCTCTGTTGTTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGCAGTCAGAAGGTTGTAGTTTTACGATCAAAGCTCCCAAGATGTTGCCTTCTCTCTTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                      (first
                                                                                                                                                                                                                                                                                                                                                                                                                                      906
                                                                                                                                       pharmacodyanamic marker;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     600
                                                 δ
                                                                                                밁
                                                                                                                               δ
                                                                                                                                                                                                             ş
                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches 904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-FEB-2000; 2000US-0183319P.
16-MAR-2000; 2000US-0189862P.
25-MAY-2000; 2000US-0207454P.
09-JUN-2000; 2000US-0211314P.
18-JUL-2000; 2000US-0219007P.
13-DEC-2000; 2000US-0255281P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The invention relates to an isolated nucleic acid molecule (I) comprising a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for: (a) assessing whether a patient is afflicted with prostate cancer; (b) monitoring the progression of prostate cancer in a patient; (c) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (d) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (e) selecting a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate cancer has metastasized in a patient; (h) assessing the aggressiveness or indolence of prostate cancer in a patient; (l) is also useful as a pharmacodyanamic or pharmacogenomic marker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel isolated nucleic acid molecule associated with cancerous state prostate cells and correlating with presence of prostate cancer, use for detecting presence of prostate cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 5145 BP; 1408 A; 1135 C; 1253 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 1; Page 3451; 11750pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20-FEB-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (MILL-) MILLENNIUM PREDICTIVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2001-662795/76
                                                           421
                                                                                                949
                                                                                                                                                                               889
                                                                                                                                                                                                                                                             829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  649
                                                                                                                                       361
                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                       769
                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                     709
                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            904;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   æ
                                                                                                                                                                                                     GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                    GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                          CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGTGGAACGGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                           ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                     CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                           GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                       CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                               GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Endege
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2001WO-US005171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Monahan JE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 902.8; DB Pred. No. 8e-278;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDICINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1346 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ν
••
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          U; 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              <u>.</u>.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  useful
```

1068

480 1008 420

948 360 888 300 828 240 768

```
RESULT 15
ABV21092
AID ABV21
XX ABV21
XX ABV21
XX Human
XW Human
XW Dhaxm
XW Dono
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                           17-FEB-2000; 2000US-0183319P.
16-MAR-2000; 2000US-0189862P.
25-MAY-2000; 2000US-0207454P.
09-UUN-2000; 2000US-0211314P.
18-UUL-2000; 2000US-0219007P.
13-DEC-2000; 2000US-0255281P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
           Claim 1; Page 3485;
                             Novel isolated nucleic acid molecule associated with cancerous state of prostate cells and correlating with presence of prostate cancer, useful for detecting presence of prostate cancer, stage of prostate cancer.
                                                                                                                                                                                                                                                                                                                                                                                                          20-FEB-2001; 2001WO-US005171.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            23-AUG-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; prostate cancer; cytostatic; carcinogen; pharmacodyanamic marker; pharmacogenomic marker; gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             13-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABV21092;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABV21092 standard; cDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    prostate expression marker cDNA 21083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1129
                                                                                                                                                                                                              MILLENNIUM PREDICTIVE MEDICINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                   'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGACT 1494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATATCTCCAAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ĊŦĀĠŦĠĊĀĊŦĠŦŦŦĀĠĊŦĠĠĠĀŦĊŦĊĊĊĠĊŦĊĊĠĊĊĀĊĊĀŤĊĠĊŦĀŦĊĠĊĊŦĀĊĀŦĊĀŦĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             caściadaarddaartrodraardrodraaaardcoaaaracordrocaaadcordacrtr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGCAGAATGGGATTGGTTAATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                              Endege
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       906
  11750pp; English
                                                                                                                                                                                 ŏ,
                                                                                                                                                                            Monahan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rchaffffcfigectaacffccfigacffafgagaagaagaffaagaac 1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    600
```

```
밁
                                                                                                                                            Ş
                                                                                                                                                                                              B
                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                               망
                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                 Вb
                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              $
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               888888888888<del>%</del>&
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to an isolated nucleic acid molecule (I) comprising a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for: (a) assessing whether progression of prostate cancer in a patient; (c) assessing the efficacy the efficacy control to inhibit prostate cancer in a patient; (d) assessing the efficacy of a therepy for inhibiting prostate cancer in a patient; (e) selecting a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate cell carcinogenic potential of a compound; (g) assessing the aggressiveness or indolence of prostate cancer in a patient; (e) assessing the aggressiveness or indolence of prostate cancer in a patient; (i) assessing the aggressiveness or indolence of prostate cancer in a patient; (ii) assessing the aggressiveness or indolence of prostate cancer in a patient.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 5145 BP; 1408 A; 1135 C; 1253 G; 1346 T; O U; 3 Other;
                                                                                                 1309
                                                                                                                                                                                            1249
                                                                                                                                                                                                                                                                                      1189
                                                                                                                                                                                                                                                                                                                                                                                 1129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1069
                                                       781
                                                                                                                                               721
                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1009
                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             904;
61
                                                                      CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATC
                                                                                                    CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCCTATCGCCTACATCATG
                                                                                                                                                                   ĊĊĠŦĠĠŦŤĠĠĄĊĄĄĄĬĊĄĠŦĄĠĄŦŦĊĄŦŦĠĄĠĄĄĄĠĊĄĄĄĄĠĊĊŤĊĊĄĄŤĠĠĸŢĠŦĠŦŢ
                                                                                                                                                                                              CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTT
                                                                                                                                                                                                                                                           ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                                                                         ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                     CÁGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                   CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ۲
                                                                                                                                                                                                                                                                                                                                                                                                                                             cdaartictriccaarctritarctriggcrigccagcgagargicctcaacaaggagcrigarg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACTCTĂĠTĊĊCTĂĊĊŤĠĊÁŦŤŤĊŦĊĀĠĊĊŦŤĠĊŦŦĂĊĊŦĠŦŦĠĊĊĀĀĊĂŤŤĠĠĠĊĊĀĀĊĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTTGCCTTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTGCAGGTGGGTTTGCTGAGTTCTCTGGTTTGCTTGGCCTCTGTGAAGGAAAAATCC 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ĊŦŦĠĊĀĠĠŦĠĠĠŦŦŦĠĊŦĠĀĠŦŦĊŦĊŦĊĠŦŦĠŦŦŦĊĊĊŦĠĠĊĊŦĊŦĠŦĠĀĀĠĠĀĀĀĀŦĊĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ĠĀĊĪĠŦĪŦĒĊĪĊĀĊĪĠĪĀĊĪĪĊĪĠĠŦĀĀĀĊĪĠĠĀĠĀĀĠĀĠĊŢĪĊĀĀĊĪĊĪĠĪŢĊĀĊĊĪĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       réchérchaghagerrerhaeirthacearchahagerecchhaghrerrecerereren
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ĠĀĊĀĀĀĠŦĠŦŶĀĀŦŶĀĊĀĠĀĠĊŦĊĀŦĊĊĀĠĊĀŤŦĊĀĠĊĠĀĀĀĆĀŶĀĀĠĠŤŦĠĀĊĀŤŤĠĀŢ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ĊĀĊĀTŦŤŦĠĠĀĀĠĊĊĀŦŦĀĀŦĀŤĊĀĀĊŦĠĊŦĊĊĀĀĠĊŦŤĀŦĠĀĀĠĊĠĀĀĠĠŦŤĠĊĀĀĊĀĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               agrigga a com a mar a mar a com a mar a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a com a co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            arddcccardadarearrdgaacrcaaarrgrracrdadadgrrcgrcgcrcrgcrgaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99.6%;
ilarity 99.8%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 902.8; DB 5
Pred. No. 8e-278;
0; Mismatches 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <u>ن</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ٥,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                        1368
                                                                                                                   780
                                                                                                                                                                   1308
                                                                                                                                                                                                                                                             1248
                                                                                                                                                                                                                                                                                                                                                     1188
                                                                                                                                                                                                                                                                                                                                                                                                  600
                                                                                                                                                                                                                                                                                                                                                                                                                                                1128
                                                                                                                                                                                                                                                                                                        660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
```

This Page Blank (uspto)

```
Regult
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OM nucleic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score
          9902.8
9902.8
9902.8
9902.8
9902.8
89902.8
89902.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       nucleic search, using sw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Published Applications NA:*

1: /cgn2_6/ptodata/1/pubpna/US07_NEW_PUB.seq:*

2: /cgn2_6/ptodata/1/pubpna/US06_NEW_PUB.seq:*

3: /cgn2_6/ptodata/1/pubpna/US06_NEW_PUB.seq:*

4: /cgn2_6/ptodata/1/pubpna/US06_PUBCOMB.seq:*

5: /cgn2_6/ptodata/1/pubpna/US08_PUBCOMB.seq:*

6: /cgn2_6/ptodata/1/pubpna/US08_NEW_PUB.seq:*

7: /cgn2_6/ptodata/1/pubpna/US08_PUBCOMB.seq:*

9: /cgn2_6/ptodata/1/pubpna/US09_PUBCOMB.seq:*

10: /cgn2_6/ptodata/1/pubpna/US09_PUBCOMB.seq:*

11: /cgn2_6/ptodata/1/pubpna/US09_PUBCOMB.seq:*

13: /cgn2_6/ptodata/1/pubpna/US09_PUBCOMB.seq:*

14: /cgn2_6/ptodata/1/pubpna/US09_PUBCOMB.seq:*

15: /cgn2_6/ptodata/1/pubpna/US09_PUBCOMB.seq:*

16: /cgn2_6/ptodata/1/pubpna/US108_PUBCOMB.seq:*

16: /cgn2_6/ptodata/1/pubpna/US108_PUBCOMB.seq:*

16: /cgn2_6/ptodata/1/pubpna/US108_PUBCOMB.seq:*

17: /cgn2_6/ptodata/1/pubpna/US108_PUBCOMB.seq:*

18: /cgn2_6/ptodata/1/pubpna/US108_PUBCOMB.seq:*

19: /cgn2_6/ptodata/1/pubpna/US108_PUBCOMB.seq:*

19: /cgn2_6/ptodata/1/pubpna/US108_PUBCOMB.seq:*

19: /cgn2_6/ptodata/1/pubpna/US108_PUBCOMB.seq:*

19: /cgn2_6/ptodata/1/pubpna/US108_PUBCOMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IDENTITY_NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-029-345A-108_COPY_538_1443
906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3017426 seqs, 2290544650 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         June 21, 2004, 18:08:06 ; Search time 540.914 Seconds
                                     $\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\tex{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\}$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{$\text{
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         atggcccatgagatgattgg.....agaagattaagaaccagact 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
          1998
1998
2071
2073
3059
33544
3544
3544
4790
22100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          B
          13
9
9
16
13
13
13
13
13
                                                                                                                                                                                                                                                                                                9 US-09-816-494-3
16 US-10-377-072-27
13 US-10-072-012-257
13 US-10-168-506-2
17 US-10-257-026-1
                                  US-09-964-277-1
US-09-816-494-1
6 US-10-377-072-25
3 US-10-425-114-26234
3 US-10-343-357-17
7 US-10-648-593-115
6 US-10-994-749-673
3 US-10-296-115-520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (without alignments) 7673.060 Million cel
Sequence 3, Appli
Sequence 27, Appl
Sequence 27, Appli
Sequence 1, Appli
Sequence 1, Appli
Sequence 1, Appli
Sequence 25, Appl
Sequence 2534, A
Sequence 26234, A
Sequence 17, Appl
Sequence 673, Appl
Sequence 673, Appl
Sequence 673, Appl
Sequence 520, Appl
Sequence 520, Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cell updates/sec
```

ALIGNMENTS

```
Ś
                                                                             밁
                                                                                                            S
                                                                                                                                                        밁
밁
                                                                                                                                                                                           ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-816-494-3
                                                                                                                                                                                                                                                                                                                        US-09-816-494-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 3, Application US/09816494
Patent No. US20020034807A1
GENERAL INFORMATION:
APPLICANT: Meyers, Rachel A.
TITLE OF INVENTION: 38692 AND 21117, NOVEL DUAL SPECIFICITY
TITLE OF INVENTION: PHOSPHATASE MOLECULES AND USES THEREFOR
FILE REFERENCE: 10448-030002
                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 10
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 3
LENGTH: 1998
                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/816,494
CURRENT FILING DATE: 2001-03-23
PRIOR APPLICATION NUMBER: US 60/191,858
PRIOR FILING DATE: 2000-03-24
                                                                                                                                                                                                                                                                                                                                       TYPE: DNA
ORGANISM: Homo sapiens
                         121 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180
                                                                                                                                                                                                                                       904; Conservative
                                                                             61
                                                                                                    61 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120
                                                                                                                                                                                 1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                          1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
  CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                               AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                     99.6%; Score 902.8; DB 99.8%; Pred. No. 1.4e-28 rative '0; Mismatches
                                                                                                                                                                                                                                                              .4e-282;
                                                                                                                                                                                                                                                                                   9;
                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                   1998;
                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                         Gaps
                                                                                 120
    180
                                                                                                                                                              60
                                                                                                                                                                                                   60
```

```
Sequence 27, Application US/10377072

Publication No. US20040009501A1

GENERAL INFORMATION:

APPLICANT: Millennium Pharmaceuticals Inc.

APPLICANT: Curtis, Rory A.J.

APPLICANT: Logan, Thomas Joseph

APPLICANT: Meyers, Rachel E.

APPLICANT: Meyers, Rachel E.

APPLICANT: Meyers, Rachel E.

APPLICANT: Modelph-Owen, Laura A.

APPLICANT: Chun, Miyoung

APPLICANT: Chun, Miyoung

TITLE OF INVENTION: NOVEL 25869, 25934, 2633;

TITLE OF INVENTION: AND USES THEREFOR TITLE OF INVENTION: AND USES THEREFOR CURRENT APPLICATION NOWER: US/10/377,072

CURRENT APPLICATION DATE: 2003-02-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 2
US-10-377-072-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        aAgadgatiggacatgitettitagargaagettaeagattigagaagaaaaaaaagaeettaet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCATCGCTATCGCCTACATCATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   c c grigari ga ko a a a real a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a charachta a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGTGGTTGGACAAATCAGTAGATTTCAGTGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         arccccaagrerearriceracanaraceraraaaaarerra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGCAGAATGGGATTGGTTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGĀĀTĪĊTĪĊĊĊĀĀTĊŢĪĀĪĊĪĪĠĊTĞĊĊĀĞĊĠĀĠĀŢĠŢĊĊŢĊĀĀĊĀĀĠĠĀĠĊŢĠĀŢĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTCTÁGTCCCTÁCCTGCÁTTTCTCÁGCCTTGCTTÁCCTGTTGCCÁÁCÁTTGGGCCÁÁCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        recaercaeaaeerreraerracearcaaaecreceaaearereceicaecrecrererea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            906
                                                                                                                                                             26335,
                                                                                                                                        16839,
                                                                                                                       50365, 21117,
), 49937, 49931 AND 49933 MOLECULES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                            Ś
                                                                       닭
                                                                                                         δ
                                                                                                                                                           밁
                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                              당
                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                            뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; FEATURE:
; NAME/KEY: CDS
; LOCATION: (1)...(1998)
US-10-377-072-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION NUMBER: US 09/723,806
PRIOR FILING DATE: 2000-11-28
PRIOR FILING DATE: 2000-03-07
PRIOR PRIOR APPLICATION NUMBER: US 60/187,455
PRIOR APPLICATION NUMBER: US 09/843,297
PRIOR APPLICATION NUMBER: US 60/199,801
PRIOR APPLICATION NUMBER: US 60/199,801
PRIOR FILING DATE: 2000-04-25
PRIOR PILING DATE: 2000-04-26
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR PILING DATE: 2001-03-13
PRIOR PILING DATE: 2001-03-23
PRIOR APPLICATION NUMBER: US 09/815,419
PRIOR APPLICATION NUMBER: US 09/815,419
PRIOR APPLICATION NUMBER: US 09/815,419
PRIOR APPLICATION NUMBER: US 09/815,419
PRIOR FILING DATE: 2001-03-23
PRIOR FILING DATE: 2001-03-23
PRIOR FILING DATE: 2001-03-23
PRIOR FILING DATE: 2001-03-23
PRIOR FILING DATE: 2001-03-23
PRIOR FILING DATE: 2001-03-23
PRIOR FILING DATE: 2001-03-23
PRIOR FILING DATE: 2001-03-23
PRIOR FILING DATE: 2001-03-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: FASTSE; SEQ ID NO 27; LENGTH: 1998; TYPE: DNA; ORGANISM: Homo (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Remaining Prior Application data removed NUMBER OF SEQ ID NOS: 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR
PRIOR
PRIOR
PRIOR
                                                                     481
                                                                                                             481
                                                                                                                                                        421
                                                                                                                                                                                                   421
                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   904;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US 60/215,370 FILING DATE: 2000-06-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US 09/895,860 FILING DATE: 2001-06-29
CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                       CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                          CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                              ACTCTAGTCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                             ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                    ĊŦŦĠĊĀĠĠſĠĠĠſŦſĠĊſĠĀĠſŦĊſĊſĊĠŢſĠſŦŢĊĊĊſĠĠĊĊŢĊſĠſĠĀĀĠĠĀĀĀġŢĊĊ
                                                                                                                                                                                                                                                 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                      GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                          GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                réchérchedhaderretadritadentenhaderecchadenterrecercierench
                                                                                                                                                                                                                                                                                                                                                                                                                            GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ĠĀĊĀĀĀĠŤĠŦŤĀĀŦŦĀĊĀĠĀĠĊŦĊĀŦĊĊĀĠĊĀŦŤĊĀĠĊĠĀĀĀĊĀŤĀĀĠĠŤŦĠĀĊĀŦŤĠĀŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CĂCĂTTTTĠĠĀĀĠĊĊĀŤTĀĀTĀTĊĀĀĊŤĠĊŤĊĆĀĀĠĊŢŦĀTĠĀĀĠĊĠĀĀĠĠŤŤĠĊĀĀĊĀĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTGGAÁCGGAÁAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGGAÁTACAATACATCC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACAATCC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGGCCCATGAGATGGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000-06-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 902.8; DB 16; Length Pred. No. 1.4e-282; O; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ı
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   See File Wrapper or PALM
```

,

Gaps

0

60

540 540

480 480

420 420

360 360

300

300 240 240

180

8 밁 Ś 밁 Ś 뭐 Ś В Ś 뫄 Ş 문 Ś

```
APPLICANT: Grosse, William M.

APPLICANT: Lepley, Denise M.

APPLICANT: Lepley, Denise M.

APPLICANT: Lepley, Denise M.

APPLICANT: Burges, Catherine E.

TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same
FILE REFERENCE: 21402-258

CURRENT APPLICATION NUMBER: US/10/072,012

CURRENT APPLICATION NUMBER: 60/265,102
PRIOR APPLICATION NUMBER: 60/265,102
PRIOR FILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,319
PRIOR APPLICATION NUMBER: 60/265,395
PRIOR APPLICATION NUMBER: 60/266,406
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/266,767

PRIOR APPLICATION NUMBER: 60/266,767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 3
US-10-072-012-257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Tchernev, Velizar APPLICANT: Spytek, Kimberly APPLICANT: Spytek, Kimberly APPLICANT: Zerhusen, Bryan APPLICANT: Patturajan, Meera APPLICANT: Shimkets, Richard APPLICANT: Li, Li APPLICANT: Li Gangolli, Esha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 257, A Publication No.
                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          901 CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                             Furtak, Katarzyna
Grosse, William M.
Alsobrook II, John P.
                                                                                                                                                                                                                                                                                                                                                                                                                                     Colman, Steven D. Wolenc, Adam R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Taupier Jr, Raymond J.
Gusev, Vladimir Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Miller, Charles E. Gerlach, Valerie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Patturajan, Meera
Shimkets, Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Padigaru,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Application US/10072012
o. US20040033493A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          906
                                                                                                                                                                                                                                                                                                                                                                                                                   Carol E. A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Muralidhara
David W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Luca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; PRIOR FILING DATE: 2001-02-05
; PRIOR APPLICATION NUMBER: 60/267,057
; PRIOR FILING DATE: 2001-02-07
; PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/267,459
; PRIOR APPLICATION NUMBER: 60/267,459
; PRIOR FILING DATE: 2001-02-08
; Remaining Prior Application data removed - See
; NUMBER OF SEQ ID NOS: 1391
; SOFTWARE: Patentin Ver. 2.1
; SEQ ID NO 257
; LENGTH: 2071
; TYPE: DNA
; ORGANISM: Homo sapiens
US-10-072-012-257
                                         뭐
                                                                        Ś
                                                                                                              밁
                                                                                                                                             ঠ
                                                                                                                                                                                   밁
                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                        유
                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                         781
                                                                            721
                                                                                                               721
                                                                                                                                                 661
                                                                                                                                                                                                                      109
                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                904;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 ATGGCCCATGAGATGATTGGAAACTCAAATTGTTACTGAGAGGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                       ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                     CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                      ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
       CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCCTATCGCCTACATCATG
                                                                                                                                    CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                        CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                             CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                          CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                               CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                  ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                     CTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 902.8; DB 13
Pred. No. 1.5e-282;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    See File Wrapper or PALM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
```

840

780 780 720 720 660 660 600 600 540 540 480 480 420 420 360 360 300 300 240 240 180 180 120 120

60 0,

Ś Дb Ś

600

```
Sequence 2, Application US/10168506

Publication No. US20040053229A1

GENERAL INFORMATION:
APPLICANT: PLOWMAN, GREGORY D.
APPLICANT: WARTINEZ, RICARDO
APPLICANT: WARNING, GERARD
APPLICANT: WANNING, GERARD
APPLICANT: HILL, RON
APPLICANT: SUDARSANAM, SUCHA
APPLICANT: FLANAGAN, PETER
TITLE OF INVENTION: WAMMALIAN PROTEIN PHOSPHATASES
CURRENT PILING DATE: 2002-06-21
FILE REFERENCE: 038602/1351
CURRENT APPLICATION NUMBER: US/10/168,506
FRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: DS/10/168,506
PRIOR APPLICATION NUMBER: SUS/10/168,506
PRIOR APPLICATION NUMBER: SUS/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: SUS/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: SUS/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: US/10/168,506
PRIOR A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; TYPE: DNA; ORGANISM: Homo sapiens US-10-168-506-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 99.6%; Score 902.8; DB 13
Best Local Similarity 99.8%; Pred. No. 1.7e-282;
Matches 904; Conservative 0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-168-506-2
                                                                                                                                                                                                                                                                          898
                                                                                                                                                                                                                                                                                                                                                                                                                 838
                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     718 GÁCAAÁGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60
                                                                         A CT CTA 6 T C C CTA C CTA C CTT CT CA G C CTT G C TT A C CT G T T G C CA A C A T T G G G C C A A C C
                                                                                                                   ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                      CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                        ĊŦŦĠĊĀĠĠŦĠĠĠŦŦŦĠĊŦĠĀĠŦŦĊŦĊĠĠŦŦĠŦŦĠĊŦĠĠĠĊĊŦĊŦĠŦĠĀĀĠĠĀĀĀĀŦĊĊ
                                                                                                                                                                                                                                                                                                                                                               ĠĀĊŦĠŦŦŦŦĊŦĊĀĊŦĠŦĀĊŦŤĊŦĠĠĠŦĀĀĀĊŦĠĠĀĠĀĠĀĠĊŦŦĊĀĀĊŦĊŦĠŦŦĊĀĊĊŦĠ
                                                                                                                                                                                                                                                                                                                                                                                                             GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCCTTCTCTCTTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          réchérchadhhádirteinheirtachhrádarchhádartachhádartairteicircircircirch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cá cá tritiga á ágica tradratica a cráctica á diritiga á ágica á a chaig cháca ágir trada cháca ágir trada chác
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Adroganación de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de la martina de 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a redece carea da reda reda a crea a a regeria de reda de deservo de comença a reda de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de comença de c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   atatetecadaetredattieresecedaetecetegaetatedagaedaetatedagaedattadadae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   _ DB_13; Length 2732;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                             1017
                                                                                                                                              480
                                                                                                                                                                                                                        957
                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                   897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; APRICANT INVENTALLAN,
; APPLICANT: Merck Patent GmbH
; TITLE OF INVENTION: New dual specificity phosphatase
; FILE REFERENCE: DUSP10KDWS
; CURRENT APPLICATION NUMBER: US/10/257,026
; CURRENT FILING DATE: 2003-11-07
; CURRENT FILING DATE: 2003-11-07
; NUMBER OF SEQ ID NOS: 3
; SOFTWARE: PatentIn Ver. 2.1
; LENGTH: 3059
; YPPE: DNA
; ORGANISM: Homo sapiens
; PEATURE:
; NAME/KEY: CDS
; LOCATION: (127)..(2121)
US-10-257-026-1
                                                                                                Ş
                                                                                                                                                                  밁
                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                             멁
                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 5
US-10-257-026-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches 904;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1, Application US/10257026
Publication No. US20040086859A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ď,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뫄
181 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                        127
                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1438 CAGACT 1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         901 CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1018
                                                                                                                                                                                                                                                       AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601 ATCCCCGAGTCTCATTTCCTGCGTGTGGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG 660
                                                                                                                   ĊĀĊĀTŦŤŤĠĠĀĀĠĊĊĀŤŦĀĀŦĀŦĊĀĀĊŤĠĊŦĊĆĀĀĠĊŦŤĀŤĠĀĀĠĊĠĀĀĠĠŤŤĠĊĀĀĊĀĠ
                                                                                                                                                              CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                  ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTGCTGCTGGAA 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATATETECAAACTTEAATTTETEGGECAACTECTGGACTATGAGAAGAAGATTAAGGAC 1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      chádrdeáchdrinadehddahrereeddreeddeedacareddinareddeenachtare 1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ĊĊĠŦĠĠŦŤĠĠŔĊŔŔŔŤĊŔĠŦŔĠŔŦŤŦĊŔŦŦĠŔĠŔĸŔĠĊŔĸĸŔĠĊĊŤĊĊĸĸŦĠĠĸŦĠŦĠŦŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            arccccaagrereatricersegrorsecersreaardaeacageriirigisadaaaarriig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGCAGAATGGGATTGGTTÁTGTGTTAAATGCCAGCAATACCTGTCCAAAGGCCTGACTTT 1137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 902.8; DB 1,
Pred. No. 1.9e-282;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 17; Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3059;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
```

900 1377 780 1257 720 1197

밁

240 306 180 246 120

Ś 밁 Ş 뭐 Ş В Ş 밁 Ş В S 밁 S

Ý

ઈ

δ 밁

```
Sequence 1, Application US/09964277

Patent No. US20020137170A1

GENERAL INFORMATION:
APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
TIFLE OF INVENTION: DSP-16 DUAL-SPECIFICITY PHO
FILE REFERENCE: 200125.434

CURRENT APPLICATION NUMBER: US/09/964,277

CURRENT FILING DATE: 2001-09-25

NUMBER OF SEQ ID NOS: 22

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 1

LENGTH: 3496
TYPE: DNA

ORGANISM: Homo sapiens
                                                                                                                                                                                                                                      RESULT 6
US-09-964-277-1
                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             중 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   멼
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
 Query Match 99.6%;
Best Local Similarity 99.8%;
Matches 904; Conservative
                                                                                                                                                                                                                                                                                      1027
                                                                                                                                                                                                                                                                                                                                     967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       547
                                                                                                                                                                                                                                                                                                                                                           841
                                                                                                                                                                                                                                                                                                                                                                                    907
                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                 847
                                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  307
                                                                                                                                                                                                                                                                                                      CAGACT
                                                                                                                                                                                                                                                                                     CAGACT
                                                                                                                                                                                                                                                                                                                                     ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                          CTAGTGCACTGTTTAGCTGGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACACTTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACTGTTTTCTCACCTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                   CTAGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                  1032
                                                                                                                                                                                                                                                                                                            906
Score 902.8; DB Pred. No. 2e-282; O; Mismatches
                                                                                                                                                                    PHOSPHATASE
                      9;
                       Length
  Indels
                        3496;
 0;
  Gaps
                                                                                                                                                                                                                                                                                                                                     1026
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    426
                                                                                                                                                                                                                                                                                                                                                            900
                                                                                                                                                                                                                                                                                                                                                                                    966
                                                                                                                                                                                                                                                                                                                                                                                                            840
                                                                                                                                                                                                                                                                                                                                                                                                                                  906
                                                                                                                                                                                                                                                                                                                                                                                                                                                        780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  366
 0
  .. .. .. .. ..
                                                                                                                            δ
                                                                                                                                                      밁
                                                                                                                                                                       S
                                                                                                                                                                                                   밁
                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                            片
                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                           RESULT 7
US-09-816-494-1
Sequence 1, Application US/09816494
PACENT NO. US20020034807A1
GENERAL INFORMATION:
APPLICANT: Meyers, Rachel A.
TITLE OF INVENTION: 38692 AND 2111
                                                                                                          1462
                                                                                                                                                      1402
                                                                                                                                                                                                    1342
                                                                                                                                                                                                                                                   1282
                                                                                                                                                                                                                                                                                                  1222
                                                                                                                                                                                                                                                                                                                                                 1162
                                                                                                                                                                                                                                                                                                                                                                                               1102
                                                                                                                                                                                                                                                                                                                                                                                                                                             1042
                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                               901
                                                                                                                                                                              841
                                                                                                                                                                                                                            781
                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                          CAGACT 1467
                                                                                                                                                                                                    CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCATCGCTATCGCCTACCATCATC
                                                                                                                                                                                                                                                                       CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                            CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTIGCAGGIGGGTTIGCTGAGITCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGTGGCTCTGCTGGAA
                                                                                                                               CAGACT
                                                                                                                                                        ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                    ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                  CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                             CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACTGTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGTGGAACGGAAAAAGTGCTGATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                TTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
   21117,
   NOVEL DUAL SPECIFICITY
                                                                                                                                                         1461
                                                                                                                                                                                                                                                     1341
                                                                                                                                                                                                                                                                                                    1281
                                                                                                                                                                                                                                                                                                                                                   1221
                                                                                                                                                                                                                                                                                                                                                                                                1161
                                                                                                                                                                                                                                                                                                                                                                                                                                              1101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1041
                                                                                                                                                                                900
                                                                                                                                                                                                       1401
                                                                                                                                                                                                                              840
                                                                                                                                                                                                                                                                            780
                                                                                                                                                                                                                                                                                                                           720
                                                                                                                                                                                                                                                                                                                                                                         660
                                                                                                                                                                                                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
```

ş

음 성

US-09-816-494-1 Query Match Best Local S Matches

FEATURE:
NAME/KEY: CDS
LOCATION: (589)...(2583)

```
FILLE OF INVENTION: PHOSPHATASE MOLECULES AND USES THEREFOR CURRENT APPLICATION NUMBER: US/09/816,494 CURRENT FILING DATE: 2001-03-23 PRIOR APPLICATION NUMBER: US 60/191,858 NUMBER OF SEQ ID NOS: 10 SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 1
LENGTH: 3544
TYPE: DNA
ORGANISM: Homo sapiens
                                                    eragrigeaerigirinagerigggarerecegerecegeraregriggeriaregeriaregreerig
                                                                                  CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                           ĊĊĠŦĠĠŦŦĠĠŔĊŔŖŔŦĊŔĠŦŔĠŔĬŦŦĊŔŦŦĠŔĠŔŖŔĠĊŔŶĸŔĠĊĊŦĊĊŔĸŦĠĠĸŦĠŦĠŦŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60
                                                                                                                                                                                                                                                               ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG 1248
                                                                                                                                                                                                                                                                                                  ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                           ĊŔĠĊŔĠŔŔŤĠĠĠŔŦŤĠĠŦŦŔŤĠŦĠŦŦŔŔŔŦĠĊĊŔĠĊŖŔŦŔĊĊŦĠŦĊĊĸĸĸĠĊĊŦĠŔĊŦŦŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                                                                                                                                                                              CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ceaarrerreccaarerraterregereccaeceaearercaacaaeaeceae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACTCTAGTCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        drīdekadrīdedrīrīderīdadrīrereredrīrdrīridedrīdadedrīcidakādakakāred
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ĠĀĊīĠŕŦŤŶĊŶĊĀĊĨĠŸĀĊŦŶĊĨĠĠĠŶĀĀĀĊĨĠĠĀĠĀĠĀĠĊŤŶĊĀĀĊŤĠŦŶĊĀĊĊĨĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACTGITTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           réchérchéanacerretracerriacentennacerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerretracerr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCCGGCCATTTGGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 902.8; DB 9;
Pred. No. 2.1e-282;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 3544;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                    1368
                                                                                                      780
                                                                                                                                                           1308
                                                                                                                                                                                                                                                                                                                                                                              1188
                                                                                                                                                                                                                                                                                                                                                                                                                                   600
                                                                                                                                                                                                                                                                                                                         660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           648
                                                                                                                                                                                                                                       ; TYPE: DNA;
; ORGANISM: Homo Sapiens
; FEATURE:
; NAME/KEY: CDS;
; LOCATION: (589)...(2586)
US-10-377-072-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: MILENNIUM Pharmaceuticals Inc.
APPLICANT: Curtis, Rory A.J.
APPLICANT: Logan, Thomas Joseph
APPLICANT: Logan, Thomas Joseph
APPLICANT: Glucksmann, Maria A.
APPLICANT: Milliamson, Mark J.
APPLICANT: Williamson, Mark J.
APPLICANT: Williamson, Mark J.
APPLICANT: Williamson, Mark J.
APPLICANT: Rudolph-Owen, Laura A.
APPLICANT: Chun, Miyoung
APPLICANT: Chun, Miyoung
APPLICANT: Chun, Miyoung
APPLICANT: Chun, Miyoung
APPLICANT: Chun, Miyoung
APPLICANT: Chun, Miyoung
APPLICANT: Chun, Miyoung
APPLICANT: Chun, Miyoung
APPLICANT: Chun, Miyoung
APPLICANT: Chun, Miyoung
APPLICANT: AND USES THEREFOR
FILLE OF INVENTION: 38692, 46508, 16839, 49937, 49931 AND 4993
FITTLE OF INVENTION: AND USES THEREFOR
CURRENT FILLING DATE: 2001-06-29
PRIOR APPLICATION NUMBER: US 50/215,370
PRIOR FILLING DATE: 2001-06-29
PRIOR FILLING DATE: 2001-06-29
PRIOR FILLING DATE: 2001-06-29
PRIOR APPLICATION NUMBER: US 60/215,370
PRIOR APPLICATION NUMBER: US 60/187,455
PRIOR APPLICATION NUMBER: US 60/187,455
PRIOR APPLICATION NUMBER: US 60/187,455
PRIOR FILLING DATE: 2000-03-07
PRIOR FILLING DATE: 2000-03-07
PRIOR FILLING DATE: 2000-04-26
PRIOR FILLING DATE: 2000-05-19
PRIOR APPLICATION NUMBER: US 60/19,801
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR FILLING DATE: 2001-05-21
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR FILLING DATE: 2001-03-02
Remaining Prior Abblication data remained
                                         밁
                                                                                     Ś
                                                                                                                                         Query Match
Best Local S
Matches 904
                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQ ID NOS: 114
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 25
SEQ ID NO 25
TENGTH: 3544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 8
US-10-377-072-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 25, Applica Publication No. US20 GENERAL INFORMATION:
                                                                                                                                      Local Similarity
les 904; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     901
arddcccardadardatrodaacrcaaarrgraacrdadaddrogradgrodcrecerddaa
                                ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC 1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aagaggarggacargrettiagargaagetraeagrittgrgaaagaaaaaaaagacetaet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Application US/10377072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99.6%;
                                                                                                                              ,
                                                                                                                     Score 902.8; DB 16;
Pred. No. 2.1e-282;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             See File Wrapper or PALM
                                                                                                                  Indels
                                                                                                                                                                    Length 3544
                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        49933 MOLECULES
     648
                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  840
```

В Ş 밁 Ś 밁 Ś 뮍 Ś 밁 Ś 밁 Ş

181

649

61

589

904;

Conservative

Similarity

99.6%;

Ś 뭐 Ś 밁 Ş В Ś 밁 Ś В Ş 밁 Ş

1249

661

1189

601

1129

541

1069

481

1009

<u>,,</u>

Gaps

```
RESULT 9
US-10-425-114-26234
; Sequence 26234, Application US/10425114
; Publication No. US20040034888A1
; GENERAL INFORMATION:
; APPLICANT: Liu, Jingdong
; APPLICANT: Kovalic, David K.
APPLICANT: Kovalic, David K.
APPLICANT: Screen, Steven E
; APPLICANT: Tabasks, Jack E
; APPLICANT: Cao, Yongwei
; TITLE OF INVENTION: Nucleic Acid Molecule
                                                                                                                                                                                                                음 성 음 성
                                                                                                                                                                        음 중
                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                    중 음 중
                                                                                                                                                                                                                                                                                                                                                                                                                 음 중 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8 8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                  1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1009
                                                                                                                                                                                             901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAAATCC
                                                                                                                                                                                             CAGACT
                                                                                                                                                                                                                     CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                               ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAAAGACAGCTTTTGTGAGAAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTTGCCAACATTGGGCCAACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                  CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                  ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                              906
     Molecules
     and
   Other Molecules Associated
                                                                                                                                                                                                                                                                                                                                                                                                                  1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                               1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1008
                                                                                                                                                                                                                                                                                                                    1368
                                                                                                                                                                                                                                                                                                                                                                  1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                           780
                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                                                                                                                                                                          660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                              δ
                                                             밁
                                                                               δ
                                                                                                     DЬ
                                                                                                                             Ś
                                                                                                                                                         밁
                                                                                                                                                                           S
                                                                                                                                                                                                       뫄
                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                   뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; TYPE: DNA
, ORGANISM: Homo BapienB
; FEATURE:
; OTHER INFORMATION: Clone ID: LIB4119-028-H6_FLI
US-10-425-114-26234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 99.6%;
Best Local Similarity 99.8%;
Matches 904; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: Plants and Uses ThereFILE REFERENCE: 38-21 (53313) B CURRENT APPLICATION NUMBER: US/10/425,114 CURRENT FILING DATE: 2003-04-28 NUMBER OF SEQ ID NOS: 73128 SEQ ID NO 26234 LENGTH: 3625
                                                                                                           1352
                                                                                                                                                                                                                                                                                                       1112
                                                                                                                                                                                                                                                                                                                                                       1052
                                                                                                                                                           1292
                                                                                                                                                                                                         1232
                                                                                                                                   661
                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                      992
                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                     932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACCATCATG
                                                                                                                         CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                         ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                       CAGCAGAATGGGATTGGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                        CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                       GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACATTITGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                             CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                            ATCCCCGAGTCTCATTTCCTGCGTGTGTGTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                           CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCCTGACTTT
                                                                                                                                                                                                                                                         CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 902.8; DB 13
Pred. No. 2.1e-282;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Thereof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               for Plant Improvement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
```

1531 840 1471 1411

720

1351

1291

600

1231

1171

480

1111

420

1051

360

300 931

밁 á В Ś

1532

901

900

```
APPLICANT: LILIOTT, VICK'S, INC.; TANG, Y.Tom
APPLICANT: YAO, MODIQUE G.; BURFORD, Neil
APPLICANT: WANG, YUNG: S.; RANKUMAR, Jayalaxmi
APPLICANT: WANG, YUNG: E.; STEWART, Elizabeth A.
APPLICANT: LEE, Exnestine A.; HAFALIA, April J.A.
APPLICANT: LU, Dyung Aina M.; TRIBOULEY, Catherine M.
APPLICANT: LU, Dyung Aina M.; TRIBOULEY, Catherine M.
APPLICANT: VUE, Henry; WARREN, Bridget A.
APPLICANT: KERRNEY; Liam
ITILE OF INVENTION: PROTEIN PHOSPHATASES
FILE REFERENCE: PI-0173 CT
CURRENT APPLICATION NUMBER: US/10/343,357
; CURRENT APPLICATION NUMBER: US/0/343,357
; CURRENT APPLICATION NUMBER: US/0/343,357
; FRIOR FILING DATE: 2001-07-26
; PRIOR APPLICATION NUMBER: US 60/221,679
; PRIOR APPLICATION NUMBER: US 60/221,679
; PRIOR APPLICATION NUMBER: US 60/223,272
; PRIOR APPLICATION NUMBER: US 60/224,309
; PRIOR APPLICATION NUMBER: US 60/224,309
; PRIOR APPLICATION NUMBER: US 60/224,309
; PRIOR FILING DATE: 2000-08-10
; PRIOR FILING DATE: 2000-08-10
; PRIOR FILING DATE: 2000-08-10
; PRIOR FILING DATE: 2000-08-10
; PRIOR FILING DATE: 2000-08-10
; PRIOR FILING DATE: 2000-08-10
; PRIOR FILING DATE: 2000-08-10
; PRIOR FILING DATE: 2000-08-10
; PRIOR FILING DATE: 2000-08-10
; PRIOR FILING DATE: 2000-08-10
; PRIOR FILING DATE: 2000-08-10
; PRIOR APPLICATION NUMBER: US 60/224,309
; PRIOR FILING DATE: 2000-08-10
; PRIOR APPLICATION NUMBER: US 60/224,309
; PRIOR FILING DATE: 2000-08-10
; PRIOR APPLICATION NUMBER: US 60/224,309
; PRIOR APPLICATION NUMBER: US 60/224,309
; PRIOR FILING DATE: 2000-08-10
; PRIOR APPLICATION NUMBER: US 60/224,309
; PRIOR FILING DATE: 2000-08-10
; PRIOR APPLICATION NUMBER: US 60/224,309
; PRIOR FILING DATE: 2000-08-10
; PRIOR FILING DATE: 2000-08-10
; PRIOR FILING DATE: 2000-08-10
; PRIOR FILING DATE: 2000-08-10
; PRIOR FILING DATE: 2000-08-10
; PRIOR FILING DATE: 2000-08-10
; PRIOR FILING DATE: 2000-08-10
; PRIOR FILING DATE: 2000-08-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; NAME/KEY: misc_feature
; OTHER INFORMATION: Incyte ID No. US20040058341A1 7480570CB1
US-10-343-357-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 3766
TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 17, Application US/10343357
Publication No. US20040058341A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: INCYTE GENOMICS, INC.; TANG, Y. Tom
APPLICANT: ELLIOTT, Vicki S.; RAMKUMAR, Jayalaxmi
                                                                                                          GACAAAGTGTTAATTACAGAGCTCATCCAGCGATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                          CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180
                                                                                                                                                                                                        CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                            AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATTCC
                                                                                                                                                                                                                                                                                                                                                                                                             AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACAATACATCC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ardócccardagardartrodaactcaaarrotriactdadaccridectdectctdctdaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PERL Program
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGACT 1597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC 1591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 902.8; DB 13; Length 3766;
Pred. No. 2.1e-282;
0; Mismatches 2; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                               240
                                                                                                                                                                                                            717
                                                                                                                                                                                                                                                                                                                                                                657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
                                                                                                      ; LENGTH: 4790
; TYPE: DNA
; ORGANISM: Homo s
US-10-648-593-115
                                                                                                                                                                                                                                         Sequence 115, Application US/10648593
Publication No. US20040106132A1

Publication No. US20040106132A1

GENERAL INFORMATION:
APPLICANT: Bristol-Myers Squibb Company
TITLE OF INVENTION: INTERACT WITH AND/OR PREDICTING ACTIVITY OF COMPOUNDS THAT
TITLE OF INVENTION: INTERACT WITH AND/OR MODULATE PROTEIN TYROSINE KINASES AND/OR
FILLE REFERENCE: DO273 NP
FILLE REFERENCE: DO273 NP
CURRENT APPLICATION NUMBER: US/10/648,593
FCURRENT APPLICATION NUMBER: US/10/648,593
PRIOR APPLICATION NUMBER: 60/406,385
PRIOR APPLICATION NUMBER: 60/406,385
PRIOR APPLICATION NUMBER: 60/406,385
PRIOR OF SEQ ID NOS: 557
NUMBER OF SEQ ID NOS: 557
NUMBER OF SEQ ID NOS: 557
NUMBER OF SEQ ID NOS: 557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 11
US-10-648-593-115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                    SOFTWARE: PatentIn version 3.2
SEQ ID NO 115
LENGTH: 4790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  898 Ctriechderedectritectedaetricretectretrictectredecetretetedadedadaatee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGAATTAAGAAC 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATATCTCCĂAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             crasrecación relación de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de const
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACCATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCGTGGTTGGACAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ĊAĠĊĀĠĀĀŦĠĠĠĀŦŦĠĠŦŦĀŦĠŦĠŦŦĀĀĀŦĠĊĊĀĠĊĀĀŦĀĊĊŦĠŦĊĊĀĀĀĠĊĊŦĠĀĊŦŦŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCCCCCAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGAATTCTTCCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG 1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACTCTĂĠŦĊĊĊŦĂĊĊŦĠĊĂŦŦŦĊŦĊĀĠĊĊŦŦĠĊŦŦĂĊĊŦĠŦŦĠĊĊĂĂĊĂŦŦĠĠĠĊĊĂĂĊĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ĠĀĊĪĠŦĬŦĬĊŢĊĀĊĪĠŦĀĊŦŦĊŦĠĠĠŦĀĀĀĊŢĠĠĀĠĀĀĠĀĠĊŦŢĊĀĀĊŢĠŦŢĊĀĊĊŢĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACTGTTTTGTCACTGTACTTCTGGGTAAACTGGAGAAAAGAGCTTCAACTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         réchérchean de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de la réchére de l
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            906
                        99.6%;
                Score 902.8;
            DB
Length 4790;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         837
```

B á В Ś 뮍

181 658 121 598 Ś

_

538 61

Matches 904;

SOFTWARE: PH SEQ ID NO 17

```
RESULT 12
US-10-094-749-673
(S-10-094-749-673)
(Sequence 673, Application US/10094749)
(Publication No. US20030219741A1)
(GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity 99.8 Matches 904; Conservative
                                                                                                                                                                     1024
                                                                                                                                                                                                                                                                                            904
                                                                                                                                                                                                                                964
                                                                                                                                                                                                                                                            781
                                                                                                                                                                                                                                                                                                                                                         844
                                                                                                                                                                                                                                                                                                                                                                                      199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     544
                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                    784
                                                                                                                                                                                                                                                                                                                                                                                                                                                   109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            184 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 ATGGCCCATGAGATGATTGGAAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                  CAGACT
                                                                                                                                                                                                ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                CTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                          CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                         CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                         CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                    ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                    ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTTCCCTGGCCTCTGTAAGGAAAAACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAAATACAATACATCC
                                                                                                           1089
                                                                                                                                      906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No. 2.5e-282; 0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                     1083
                                                                                                                                                                                                  900
                                                                                                                                                                                                                                1023
                                                                                                                                                                                                                                                                                                                                                                                                                    843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         423
                                                                                                                                                                                                                                                                                            963
                                                                                                                                                                                                                                                                                                                          780
                                                                                                                                                                                                                                                                                                                                                       903
                                                                                                                                                                                                                                                                                                                                                                                      720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: TAMECHIAM, TOTAM

APPLICANT: YOSHIKAWA, TSUTOMU

APPLICANT: YOSHIKAWA, TSUTOMU

APPLICANT: YOSHIKAWA, TSUTOMU

APPLICANT: MAGHARI, MOTOYUKI

APPLICANT: MAGHARI, KENJI

APPLICANT: MASCHO, YASUHIKO

TITLE OF INVENTION: NOVEL FULL-LENGTH CDNA

FILE REFERENCE: 084335/0160

CURRENT APPLICATION NUMBER: US/10/094,749

CURRENT APPLICATION NUMBER: 60/350,435

PRIOR APPLICATION NUMBER: 60/350,435

PRIOR FILING DATE: 2002-01-24

PRIOR APPLICATION NUMBER: JP 2001-328381

PRIOR FILING DATE: 2001-09-14

NUMBER OF SEQ ID NOS: 3381

SOFTWARE: PATENTIN VET: 2.1

SEQ ID NO 673

LENGTH: 2102
                      δ
                                                           밁
                                                                                      S
                                                                                                                      밁
                                                                                                                                              S
                                                                                                                                                                                  밁
                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                         멼
                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; TYPE: DNA
; ORGANISM: Homo sapiens
US-10-094-749-673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 903; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                            481
                                                           476
                                                                                                                      416
                                                                                                                                                   361
                                                                                                                                                                                   356
                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                       176
                                                                                         421
                                                                                                                                                                                                                                               296
                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                          236
                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                   116
                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                56 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  : ISOGAI, TAKAO
SUGIYAMA, TOMOYASU
OTSUKI, TEFSUJI
WAKAMATSU, AI
SATO, HIROYUKI
ISHII, SHIZUKO
YAMAMOTO, JUN-ICHI
                                                                                                                                                                                                                                                                                                                                                                                           CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                    AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                           GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                   CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                          CTTGCAGGTGGGTTTGCTGAAGTTCTCTCGTTGTTTCCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                               GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                              GACAAAGTGTTAATTACAGAGACTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                      CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
 CTAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                        CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                   GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                HIO, YURI
OTSUKA, KAORU
NAGAI, KEIICHI
IRIE, RYOTARO
TAMECHIKA, ICHI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ISONO, 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YUUKO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 901.2; DB 16
Pred. No. 4.9e-282;
0; Mismatches 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                          295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                115
   595
                              540
                                                             535
                                                                                           480
                                                                                                                          475
                                                                                                                                                       420
                                                                                                                                                                                   415
                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                355
                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                       235
                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                      175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
```

밁 8 5 밁 Ş ક 밁 ક 몽

밁

S

Ş 밁 ঠ

밁

ર્

밁

S

밁

5

밁 S B 5 문 ð 밁

밁

```
GENERAL INCOMPATION:

APPLICANT: Hyseq Inc

TITLE OF INVENTION: NO. US20040053248A1el Nucleic Acids and Polypeptides

FILE REFERENCE: 784PCT

CURRENT APPLICATION NUMBER: US/10/296,115

PRIOR APPLICATION NUMBER: US/9/488,725

PRIOR FILING DATE: 2000-01-21

PRIOR FILING DATE: 2000-01-21

PRIOR FILING DATE: 2000-04-25

SEQ ID NO. 520

LENGTH: 2966

TYPE: DNA

ORGANISM: Homo sapiens

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

FRATURE: 'CONTAINS AND SAPIENS

                                                                                                                                                                                                                                                                                                                                                           FEATURE:

NAME/KEY: misc_feature
LOCATION: (1) ... (2966)
OTHER INFORMATION: n = a,t,c or
US-10-296-115-520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 13
US-10-296-115-520
Sequence 520, App
Publication No. 1
                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
Matches 902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                           181
                                                                                             143
                                                                                                                            121
                                                                                                                                                                                                                                                                                                902;
                                                                                                                                                              83
                                                                                                                                                                                             61
                                                                                                                                                                                                                               23
                                                                                                                                                                                                                                                                  _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    901
                GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           776
                                                                      CÁCATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                             CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                       ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                656
                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                            AGTGGAACGGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120
                                                                                                                                     AGTGGAACGGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAAATACAATACATCC 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGACT 961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ularity 99.3%; Score 899.6; DB
99.6%; Pred. No. 2e-281;
Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  chádracachdrinaderaddarerecederecadecareareariatedecracarearea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGGCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        arccccaágrercarriceracgragacergradaardacagerrigagaaaaarrigg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Application US/10296115
. US20040053248A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                906
                                                                                                                                                                                                                                                                                                                                                                            ω
                                                                                                                                                                                                                                                                                                               DB 13; Length
                                                                                                                                                                                                                                                                                 4; Indels
                                                                                                                                                                                                                                                                                                                 2966;
                                                                                                                                                                                                                                                                               ۰,
                                                                                                                                                                                                                                                                             Gaps
                                     240
                                                                      202
                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            600
                                                                                                                                                                                                                                                                                                                                                    RESULT 14
US-10-072-012-255
                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                       APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                     Sequence 255, Application US/10072012
Publication No. US20040033493A1
GENERAL INFORMATION:
APPLICANT: Tchernev, Velizar
APPLICANT: Spytek, Kimberly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   맔
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                           923
                                                                                                                                                                                                                                                                                                                                                                                                                                                        901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     563
Li, Li
Gangolli, Esha
Padigaru, Muralidhara
Anderson, David W.
Rastelli, Luca
Miller, Charles E.
Gerlach, Valerie
Taupier Jr, Raymond J.
Gusev, Vladimir Y.
Colman, Steven D.
Wolenc, Adam R.
Pena, Carol E. A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     203
                                                                                                                                                                                                                                                                                                                                                                                                                       CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGAATTAAGAAC 900
                                                                                                                                                                                                       Patturajan, Meera
Shimkets, Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTAGTGCACTGTTTAGCTGGGATCTCCGGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                            Zerhusen, Bryan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATĀĪCTCCĀĀĀCTTCĀĀĪTTTCTGGGCCĀĀCTCCTGGĀCTĀTGĀGĀĀGĀĀGĀĪTĀĀGĀĀC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAGAGGATGGÁCATGTCTTTAGATGAAGCTTACAGÁTTTGTGAAAGAAAAAAAAGACCTACT 862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCATCGCTATCGCTACACATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ĊĊĠŦĠĠŦŦĠĠĀĊĀĀĀŦĊĀĠŦĀĠĀŦŦŦĊĀŦŦĠĀĠĀĀĀĠĊĀĀĀĀĠĊĊŦĊĊĀĀŦĠĠĀŦĠŦĠŦŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              arccccaagrercarriccrecererecereaareaacacacerrirereaaaaaaarrire
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCCCCGAGICTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ĊAĠĊĀĠĀĀĪĠĠĠĀŢĪĠĠŢŢĀĀĠŢĠŢŢĀĀĀŢĠĊĊĀĠĊĀĀŢĀĊĊŢĠŤĊĊĀĀĀĠĊĊŢĠĀĊŢŢŢ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ceaarrectricecaaretriaretriegeregecagegagaretrecteaacaaggagereare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a Crera orece a cere ce a cere e con esta en esta en esta en esta en esta en esta en esta en esta en esta en e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ĊŦŦĠĊĀĠĠŦĠĠĠŦŦŦĠĊŦĠĀĠŦŦĊŦĊĠŦŦĠŦŦŦĊĊĊŦĠĠĊĊŦĊŦĠŦĠĀĀĠĠĀĀĀĀŦĊĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCGTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                     906
```

720

682 660 622

562 600

502 480 442 420

360 382

322

802 780 742

В Ş B Ś 밁 Ş

```
APPLICANT: Burgess, Catherine E.
TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Sam
FILE REFERENCE: 21402-258
CURRENT APPLICATION NUMBER: US/10/072,012
CURRENT APPLICATION NUMBER: 60/265,102
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; TYPE: DNA
; ORGANISM: Homo sapiens
US-10-072-012-255
                                                                                                                      S
                                                                                                                                                                       В
                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Remaining Prior Application data removed -
NUMBER OF SEQ ID NOS: 1391
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 255
LENGTH: 2200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                  301
                                397
                                                                                                                                                                                                                                                                                                               229
                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                         181 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATA------AG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 CACATTITGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                            421
                                                                                                                      349
                                                                                                                                                                          361
                                                                                                                                                                                                                    289
                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               904;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 ATGGCCCATGAGATGATTGGAAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGGAATACAATACATCC
CCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTA
                                                                            TCTGTTCACCTGCTTGCAGGTTATTCTTAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTC
                                                                                                                                                                     TCTCTCTCAGACTGTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAAC
                                                                                                                                                                                                               TCTCTCTTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAAC
                                                                                                                                                                                                                                                                                                               GTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCC
                                                                                                                                                                                                                                                                                                                                                           GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTAAACGCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                         CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGGCCCATGAGATGATTGGAAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lepley, Denise M.
Rieger, Daniel K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alsobrook II, John P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Furtak, Katarzyna
Grosse, William M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   90.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               <u>.</u>.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 817.8; DB 13;
Pred. No. 7.5e-255;
0; Mismatches 2;
                                                                                                       -AGGTGGGTTTGCTGAGTTCTCTCGTTGTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           See File Wrapper or PALM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             45;
                             456
                                                                            480
                                                                                                                        396
                                                                                                                                                                       420
                                                                                                                                                                                                                    348
                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                            228
                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
```

```
RESULT 15
US-09-964-277-20
US-09-964-277-20
US-09-964-277-20
US-09-964-277-20
US-09-964-277
Patent NO. US20020137170A1
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
FILE REFERENCE: 200125-434
CURRENT APPLICATION NUMBER: US/09/964,277
CURRENT FILING DATE: 2001-09-25
                                                                                                                                                           á
                      S
                                                              문
                                                                                           Ş
                                                                                                                               밁
                                                                                                                                                                                             밁
                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                             ; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-964-277-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 20
LENGTH: 3332
                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 740; Conserv
742
                             181
                                                               682
                                                                                                121
                                                                                                                                 622
                                                                                                                                                                                               562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                              13
                                                                                                                                                                                                                                _
             GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120
                                                                                                                                                                                                               ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGAA
                                                              CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AATTITCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTAGATGAAGCTTAC----AGATTTGTGAAAGAAAAAAAGCCTACTATTATCTCCAAACTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTGACTTATACAGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAAT
                                                                                                                               AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTAGATGAAGCTTACAGGAGATTTGTGAAAGAAAAAAAGACCTACTATATCTCCAAACTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGGATGGACATGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGGTAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GATGTCCTCAACAAGGAGCTGATGCAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCTGTTGCCAACATTGGGCCAACCCGAATTCTTCCCCAATCTTTATCTTGGCTGCCAGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCTGTTGCCAACATTGGGCCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTA
                                                                                                                                                                                                                                                             62.3%; ilarity 81.7%; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----GAGAAAGCAAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCT
                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                             Score 564.8; DB 9;
Pred. No. 2.6e-172;
0; Mismatches 2;
                                                                                                                                                                                                                                                                 Indels 164;
                                                                                                                                                                                                                                                                                            Length 3332
                                                                                                                                                                                                                                                             Gaps
                               240
                                                              741
801
                                                                                                                               681
                                                                                                                                                                                                 621
                                                                                                                                                                                                                                6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       600
```

Db .s	8 B	Ş	dd .	\$ 5	. S	Db	Ş	DЬ	δ	Дb	ş	Db	γŞ	DЪ	Ş	ДЪ	γŞ	Db	Ş	DЬ	γo
1298 CAGACT 1303	ATATCTC	841 ATATCTCCAAACTTCAATTTTCTGGGCCAACTTCGACTACT 1237				1058 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT 720	661 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAACCGATAGAGAAAACCGTTGGAGAAAATTTTG 1057	998 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG 660	601 ATCCCCGAGTCTCATTTCCTGCGTGTGTGTGTGTGTGATGATGGTGTGTGT	938 CAGCAGAATGGGATTGGTTTAATGTGTTAAAAGGCAGAATACCTGTCCAAAGCCTGACTTT 600	541 CAGCAGAATGGGATTGGTTAATGTGTTAAATGCGGGGGTTGAATG	927	GCTGCCA	927	CATTICICAGCCTTGCTTACCTTGCCCTTGCCCTTGCCCTTGCCCTTGCCCTTGCCCTTGCCTTGCCTTGCCTTGCCCTTGCCTTGCCCTTGCCTTGCCCTTGCCCTTGCCCTTGCCCTTGCCTTGCCCTTGCCCTTGCCCTTGCCCTTGCCTTGCCCTTGCCTTGCCCCTTGCCCTTGCCCTTGCCCTTGCCCTTGCCCTTGCCCTTTGCCCCTTGCCCTTGCCCTTGCCCTTGCCCTTGCCCTTGCCCTTCCTTGCCCCTTTGCCCCTTTGCCCCTTTGCCCCTTTGCCCTTTGCCCCTTTGCCCTTTGCCCCTTTGCCCTTTGCCCCTTTGCCCCTTTGCCCTTTGCCCTTTGCCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCTTTGCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCTTTGCCCTTTGCCCTTTGCCCTTTGCCCTTTGCCTTTGCCCTTTGCCTTTGCCCTTTGCCTTTGCCCTTTGCCTTTGCCCTTTGCCTTTGCCCTTTGCCTTTGCCTTTGCCTTTGCCCTTTGCCTTTGCCCTTTGCCTTTGCCCTTTTGCCCTTTTGCCCTTTTGCCCTTTTGCCCTTTGCCTTTGCCCTTTGCCCTTTTGCCCTTTTGCCCTTTTGCCCTTTTGCCCTTTTGCCCTTTTGCCCTTTTGCCCTTTTGCCCCTTTTGCCCTTTTGCCCCTTTTGCCCCTTTTGCCCTTTTGCCCCTTTTGCCCCTTTTGCCCTTTTTGCCCCTTTTTGCCCCTTTTTGCCCCTTTTTGCCCCTTTTTT						241 TGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATCTTTCCCTTTTTTTCCTTTTTTTT

Search completed: June 22, 2004, 03:25:21 Job time : 543.914 secs

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OM nucleic -
         Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB DB
      Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nucleic search, using sw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             June 21, 2004, 17:08:00 ; Search time 74.9535 Seconds (without alignments) 6707.969 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Issued_Patents_NA:*

1: /cgn2_6/ptodata/2/ina/5A_COMB.seq:*

2: /cgn2_6/ptodata/2/ina/5B_COMB.seq:*

3: /cgn2_6/ptodata/2/ina/6A_COMB.seq:*

4: /cgn2_6/ptodata/2/ina/6B_COMB.seq:*

5: /cgn2_6/ptodata/2/ina/CTUS_COMB.seq:*

6: /cgn2_6/ptodata/2/ina/backfiles1.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-029-345A-108_COPY_538_1443
906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              682709 seqs, 277475446 residues
         atggcccatgagatgattgg.....agaagattaagaaccagact 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd
      23448
2377
2377
2377
22103
22103
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
22109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
20109
201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ВB
  US-09-816-494-3
US-09-816-494-1
US-09-916-68-3
US-09-016-434-91
US-09-557-921-1
US-09-557-921-1
US-09-023-655-946
US-09-023-655-946
US-09-023-655-801
US-09-702-705-801
US-09-614-124B-801
US-09-614-124B-801
US-09-614-124B-804
US-09-614-124B-804
US-09-614-124B-804
US-09-614-124B-804
US-09-614-124B-804
US-09-614-124B-804
US-09-614-124B-804
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
US-09-614-124B-803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        model
Sequence 3, Appli
Sequence 1, Appli
Sequence 3, Appli
Sequence 91, Appli
Sequence 1, Appli
Sequence 1, Appli
Sequence 135, Appli
Sequence 135, App
Sequence 801, App
Sequence 801, App
Sequence 801, App
Sequence 801, App
Sequence 804, App
Sequence 804, App
Sequence 804, App
Sequence 804, App
Sequence 804, App
Sequence 804, App
Sequence 804, App
Sequence 804, App
Sequence 804, App
Sequence 804, App
Sequence 804, App
Sequence 804, App
Sequence 803, App
Sequence 803, App
Sequence 803, App
Sequence 803, App
Sequence 803, App
Sequence 803, App
Sequence 803, App
Sequence 803, App
Sequence 803, App
Sequence 803, App
Sequence 803, App
Sequence 803, App
Sequence 803, App
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Description
                                                  밁
                                                                                      S
                                                                                                                                    В
                                                                                                                                                                      8
                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                            S
```

361 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC 420

GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG

240 300 300 360

GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG

 GACAAAGTGTTAATTACAGAGCTCATCCAGCGATTCAGCGAAACATAAGGTTGACATTGAT

33. 90 9.9 2139 4 US-00-161438-186 Sequence 836. A 3 90 9.9 2109 4 US-00-161438-186 Sequence 836. A 3 90 9.9 2109 4 US-00-161438-126 Sequence 836. A 3 90 9.9 2109 4 US-00-161438-129 Sequence 836. A 3 90 9.9 2109 4 US-00-161438-129 Sequence 1100. Application 0.0	
32 90 9.9 2109 4 US-09-518-457-826 Sequence 82 33 90 9.9 2109 4 US-09-514124B-826 Sequence 82 35 90 9.9 2109 4 US-09-514-124B-826 Sequence 82 36 90 9.9 2109 4 US-09-516-434-1201 Sequence 82 36 90 9.9 2240 4 US-09-516-434-1201 Sequence 12 37 86 9.9 9.4 4 US-09-516-434-1201 Sequence 12 38 86.2 9.5 240 4 US-09-371-671B-10 Sequence 12 40 80.4 8.9 1987 2 US-09-371-671B-10 Sequence 12 41 80.4 8.9 1987 2 US-09-371-671B-10 Sequence 2 42 90.8 9.9 1997 2 US-09-90-379-1 Sequence 2 42 90.8 9.9 1997 2 US-09-90-379-1 Sequence 2 42 90.8 9.9 1997 2 US-09-90-379-1 Sequence 3 43 79 8.7 539 4 US-09-338-681-311 Sequence 2 44 79 8.7 539 4 US-09-433-826B-311 Sequence 3 44 79 8.7 539 4 US-09-433-826B-311 Sequence 3 44 79 8.7 539 4 US-09-433-826B-311 Sequence 3 45 79 8.7 539 4 US-09-433-826B-311 Sequence 3 45 79 8.7 539 4 US-09-433-826B-311 Sequence 3 45 79 8.7 539 4 US-09-433-826B-311 Sequence 3 45 79 8.7 539 4 US-09-433-826B-311 Sequence 3 45 79 8.7 539 4 US-09-433-826B-311 Sequence 3 45 79 8.7 539 4 US-09-433-826B-311 Sequence 3 45 79 8.7 539 4 US-09-433-826B-311 Sequence 3 45 79 8.7 539 4 US-09-433-826B-311 Sequence 3 45 79 8.7 539 4 US-09-433-826B-311 Sequence 3 45 79 8.7 539 4 US-09-433-826B-311 Sequence 3 45 79 8.7 539 4 US-09-433-826B-311 Sequence 3 45 79 8.7 539 4 US-09-433-826B-311 Sequence 3 45 79 8.7 539 4 US-09-433-826B-311 Sequence 3 4 4 79 8.7 539 4 US-09-433-826B-311 Sequence 3 4 4 79 8.7 539 4 US-09-433-826B-311 Sequence 3 4 4 79 8.7 539 4 US-09-433-826B-311 Sequence 3 4 4 79 8.7 539 4 US-09-433-826B-311 Sequence 3 4 4 79 8.7 539 4 US-09-433-826B-311 Sequence 3 4 4 79 8.7 539 4 US-09-433-826B-311 Sequence 3 4 4 79 8.7 539 4 US-09-433-826B-311 Sequence 3 4 4 79 8.7 539 4 US-09-433-826B-311 Sequence 3 4 77 8 79 8 8 7 7 7 8 7 8 7 8 7 8 7 8 7 8	
90 9.9 2109 4 US-09-735-457-826 Sequence 82 90 9.9 2109 4 US-09-671-325-826 Sequence 82 90 9.9 2109 4 US-09-671-325-826 Sequence 82 90 9.9 2109 4 US-09-671-344-120 Sequence 82 90 9.9 2109 4 US-09-916-434-1100 Sequence 12 90 9.9 2200 4 US-09-016-434-76 Sequence 12 90 9.9 240 4 US-09-016-434-776 Sequence 12 86.2 9.5 240 4 US-09-016-434-776 Sequence 79 8.7 539 4 US-09-379-1 Sequence 12 90 9.9 8.7 539 4 US-09-379-2 Sequence 2.7 98.7 539 4 US-09-379-2 Sequence 31 99.8 7 539 4 US-09-338-681-311 Sequence 31 99.8 7 539 4 US-09-338-311 Sequence 31 99.8 7 539 4 US-09-338-311 Sequence 31 99.8 7 539 4 US-09-433-8268-311 Sequence 31 99.8 7 539 4 US-09-433-8268-311 Sequence 31 99.8 7 539 4 US-09-433-8268-311 Sequence 31 99.8 7 539 4 US-09-433-8268-311 Sequence 31 99.8 7 539 4 US-09-433-8268-311 Sequence 31 99.8 7 99.	
90 9.9 2109 4 US-09-736-457-826 Sequence 82 90 9.9 2109 4 US-09-614-128B-826 Sequence 82 90 9.9 2109 4 US-09-671-325-826 Sequence 82 90 9.9 2109 4 US-09-589-1894-826 Sequence 82 90 9.9 2200 4 US-09-016-434-1100 Sequence 82 90 9.9 2240 4 US-09-016-434-1291 Sequence 10 80.4 8.9 19.5 240 4 US-09-016-434-1291 Sequence 10 80.4 8.9 1987 2 US-09-371-671B-10 Sequence 10 80.4 8.9 1987 2 US-09-371-671B-10 Sequence 10 80.4 8.9 1987 2 US-09-371-671B-11 Sequence 10 80.4 8.9 1987 2 US-09-379-1 Sequence 10 80.4 8.9 1987 2 US-09-890-379-2 Sequence 10 80.4 8.9 1993 2 US-08-990-379-2 Sequence 10 80.4 8.9 1993 2 US-08-990-379-2 Sequence 10 80.4 8.9 1993 2 US-08-990-379-2 Sequence 10 80.4 8.9 1993 2 US-08-990-379-2 Sequence 10 80.4 8.9 1993 2 US-08-990-379-2 Sequence 10 80.4 8.9 1993 2 US-08-990-379-2 Sequence 10 80.4 8.9 1993 2 US-08-990-379-2 Sequence 10 80.4 8.9 1993 2 US-08-990-379-2 Sequence 20 9 8.7 539 4 US-09-389-681-311 Sequence 20 9 8.7 539 4 US-09-389-681-311 Sequence 31 NF SEQUENCE 30 US-08-990-379-2 Sequence 31 NF SEQUENCE 30 US-08-990-379-2 Sequence 31 NF SEQUENCE 30 US-09-339-338-311 Sequence 31 NF SEQUENCE 30 US-09-339-338-311 Sequence 31 NF SEQUENCE 30 US-09-339-338-311 Sequence 31 NF SEQUENCE 30 US-09-339-338-311 Sequence 31 NF SEQUENCE 30 US-09-339-338-311 Sequence 31 NF SEQUENCE 30 US-09-339-338-311 Sequence 31 NF SEQUENCE 30 US-09-339-338-311 Sequence 31 NF SEQUENCE 30 US-09-339-338-311 Sequence 31 NF SEQUENCE 30 US-09-339-338-311 Sequence 31 NF SEQUENCE 30 US-09-339-338-311 Sequence 31 NF SEQUENCE 30 US-09-339-338-311 Sequence 31 NF SEQUENCE 30 US-09-339-338-311 Sequence 31 NF SEQUENCE 30 US-09-339-338-311 Sequence 31 NF SEQUENCE 30 US-09-339-338-311 Sequence 31 NF SEQUENCE 30 US-09-339-338-311 Sequence 31 NF SEQUENCE 30 US-09-339-338-311 Sequence 31 NF SEQUENCE 30 US-09-339-338-311 Sequence 31 NF SEQUENCE 30 US-09-339-338-311 Sequence 31 NF SEQUENCE 30 US-09-339-338-311 Sequence 31 US-09-339-338-311 Sequence 31 US-09-339-338-311 Sequence 31 US-09-339-338-311 Sequence 31 US-09-339-338-311 Sequence 31 US-09-33	30 31
2109 4 US-09-736-457-826 2109 4 US-09-614-124B-826 2109 4 US-09-614-124B-826 2109 4 US-09-589-184-826 2109 4 US-09-589-184-826 2210 4 US-09-016-434-1100 2240 4 US-09-016-434-1291 240 4 US-09-016-434-776 240 4 US-09-016-434-776 240 4 US-09-016-434-776 240 4 US-09-016-434-776 240 4 US-09-311-671B-10 26quence 12 2539 4 US-09-379-1 2539 4 US-09-389-681-311 2539 4 US-09-389-681-311 2539 4 US-09-389-3811 2539 4 US-09-389-3811 2539 4 US-09-389-311 2539 4 US-09-389-311 2539 4 US-09-39-338-311 2539 4 US-09-433-826B-311 254-124	טטטט
2109 4 US-09-736-457-826 2109 4 US-09-614-124B-826 2109 4 US-09-616-434-1100 2109 4 US-09-589-184-826 22109 4 US-09-016-434-1201 2240 4 US-09-016-434-776 240 4 US-09-016-434-776 240 4 US-09-016-434-776 240 4 US-09-016-434-776 240 4 US-09-016-434-776 240 4 US-09-016-434-776 240 4 US-09-379-1 250 2 US-08-90-379-1 250 2 US-08-90-379-2 250 2 US-08-90-379-2 250 2 US-08-90-379-2 250 2 US-08-90-379-2 250 2 US-08-90-379-2 250 3 2 US-08-390-379-2 250 3 2 US-08-390-379-2 250 3 2 US-09-389-681-311 250 4 US-09-389-681-311 250 4 US-09-389-681-311 250 4 US-09-389-681-311 250 4 US-09-389-681-311 250 4 US-09-389-681-311 250 4 US-09-389-681-311 250 5 AND US-09-389-383-311 250 6 US-09-39-38-381 250 99-64; Score 902.8; DB 4; Length 1998; PHOSPHATASE MOLECULES AND USES THEREFOR 260-03-24 270 99-84; Pred. No. 2.1e-309; Indels 0; Galicular Colored Score 902.8; DB 4; Length 1998; Pred. No. 2.1e-309; Indels 0; Galicular Colored Score 902.8; DB 4; Length 1998; Pred. No. 2.1e-309; Pred. No. 2.1e-309; US-09-433-826B-311 250 99-64; Score 902.8; DB 4; Length 1998; Pred. No. 2.1e-309; Galicular Colored Score 902.8; DB 4; Length 1998; Pred. No. 2.1e-309; Galicular Colored Score 902.8; DB 4; Length 1998; Pred. No. 2.1e-309; Galicular Colored Score 902.8; DB 4; Length 1998; Pred. No. 2.1e-309; Galicular Colored Score 902.8; DB 4; Length 1998; Pred. No. 2.1e-309; Galicular Colored Score 902.8; DB 4; Length 1998; Pred. No. 2.1e-309; Galicular Colored Score 902.8; DB 4; Length 1998; Pred. No. 2.1e-309; Galicular Colored Score 902.8; DB 4; Length 1998; Pred. No. 2.1e-309; Galicular Colored Score 902.8; DB 4; Length 1998; Pred. No. 2.1e-309; Galicular Colored Score 902.8; DB 4; Length 1998; Pred. No. 2.1e-309; Galicular Colored Score 902.8; DB 4; Length 1998; Pred. No. 2.1e-309; Galicular Colored Score 902.8; DB 4; Length 1998; Pred. No. 2.1e-309; Galicular Colored Score 902.8; DB 4; Length 1998; Pred. No. 2.1e-309; DB 4; Length 1998; DB 4; Length 1998; DB 4; Length 1998; DB 4; Length 1998; DB 4; Length 1998; DB 4; Length 1998; DB 4; Length 1998; D	0000
2109 4 US-09-736-457-826 2109 4 US-09-614-124B-826 2109 4 US-09-614-124B-826 2109 4 US-09-589-184-826 2109 4 US-09-589-184-826 2210 4 US-09-016-434-1100 2240 4 US-09-016-434-1291 240 4 US-09-016-434-776 240 4 US-09-016-434-776 240 4 US-09-016-434-776 240 4 US-09-016-434-776 240 4 US-09-016-434-776 240 4 US-09-311-671B-10 25000 4 US-09-379-1 25000 5 US-09-390-379-1 2500-03-24 2500-03	
US-09-736-457-826 US-09-614-124B-826 US-09-614-124B-826 US-09-614-132-886 US-09-616-434-1100 US-09-016-434-1291 US-09-016-434-776 US-09-016-434-776 US-09-016-434-776 US-09-016-434-776 US-09-0379-1 US-09-379-1 US-09-379-1 US-08-990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-399-311 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-399-311 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-399-311 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-3990-379-2 US-09-399-311 US-09-3990-399-311 US-09-399-311 US-09-339-3	
US-09-736-457-826 US-09-614-124B-826 US-09-614-124B-826 US-09-614-134-826 US-09-616-434-1100 US-09-016-434-1100 US-09-016-434-176 US-09-016-434-776 US-09-016-434-776 US-09-0379-1 US-09-379-1 US-09-379-1 US-09-379-2 US-09-379-2 US-09-379-311 US-09-389-681-311 US-09-433-8268-311 US-09-433-8268-311 US-09-433-8268-311 US-09-339-381-38268-311 US-09-339-381-38268-311 US-09-339-381-38268-311 US-09-339-381-381 US-09-339-381-381 US-09-339-381-381 US-09-339-381-381 US-09-339-381-381 US-09-339-381-381 US-09-339-381-381 US-09-339-381-381 US-09-339-381-381 US-09-339-381-311 US-09-339-381-311 US-09-339-381-311 US-09-339-381-311 US-09-339-381-311 US-09-339-381-311 US-09-339-381-311 US-09-339-381-311 US-09-339-381-311 US-09-339-381-311 US-09-339-381-311 US-09-339-381-311 US-09-339-381-311 US-09-339-381-311 US-09-339-381-311 US-09-339-38-311 US-09-339-311 US-09-39-39-311 US-09-39-311 US-09-39-311 US-09-39-311 US-09-39-311 US-09-39-311 US-0	2064
US-09-736-457-826 US-09-614-124B-826 US-09-614-124B-826 US-09-616-434-1100 US-09-016-434-1100 US-09-016-434-1291 US-09-016-434-776 US-09-017-671B-10 US-09-379-1 US-09-379-1 US-09-379-2 US-09-379-1 US-09-379-2 US-09-379-379-2 US-09-379-31 US-09-379-37 US-09-379-37 US-09-379-37 US-09-37-37 US-09-37-37 US-09-37-37 US-09-37-37 US-09-37-37 US-09-37-37 US-09-37-37 US-09-37-37 US-09-37-37 US-09-37-37 US-09-37-37 US-09-37-37 US-09-37-37 US-09-37-37 US-09-37-37 US-09-37-37 US-09-	
36.457-826 36.457-826 36.457-826 36.457-826 36.401-124B-826 36.401-125-826 37.401-125-826 37.401-125-826 38.401-125-826 39.301	Sna
Sequence 82 14-124B-826 Sequence 82 17-325-826 Sequence 82 18-124B-826 Sequence 82 Sequence 82 Sequence 82 Sequence 10 Sequence 11 Sequence 11 Sequence 10 Sequence 10 Sequence 10 Sequence 10 Sequence 10 Sequence 10 Sequence 10 Sequence 2 Sequence 2 Sequence 2 Sequence 31 Sequence 3	0909
Sequence 82 Sequence 82 Sequence 12 Sequence 12 Sequence 11 Sequence 1, Sequence 1, Sequence 2, Sequence 2, Sequence 31 Sequence 31 Sequence 31 Sequence 31 Sequence 31 Sequence 31 Sequence 31 Gell	-671 -589
Sequence 82 Sequence 82 Sequence 12 Sequence 11 Sequence 11 Sequence 1, Sequence 1, Sequence 2, Sequence 3, Sequence 3, Sequence 3, Sequence 3, Sequence 3, Sequence 3, Sequence 3, Genence 2, Genence 2, Genence 2, Genence 2, Genence 3, Genence	-32 -18 -70
Sequence 82 Sequence 82 Sequence 12 Sequence 12 Sequence 11 Sequence 1, Sequence 1, Sequence 2, Sequence 2, Sequence 31 Sequence 31 Sequence 31 Sequence 31 Sequence 31 Sequence 31 Sequence 31 Sequence 31 Gell	5-8-5-8
Sequence 82 Sequence 82 Sequence 12 Sequence 11 Sequence 11 Sequence 1, Sequence 1, Sequence 2, Sequence 3, Sequence 3, Sequence 3, Sequence 3, Sequence 3, Sequence 3, Sequence 3, Genence 2, Genence 2, Genence 2, Genence 2, Genence 2, Genence 3, Genence	255
Sequence 82 Sequence 82 Sequence 12 Sequence 11 Sequence 11 Sequence 1, Sequence 1, Sequence 2, Sequence 2, Sequence 31 Sequence 31 Sequence 31 Sequence 31 Sequence 31 Sequence 31 Sequence 31 COTY ERBFOR E	
Sequence 826, Sequence 826, Sequence 826, Sequence 1100 Sequence 1291 Sequence 10, Sequence 10, Sequence 2, A Sequence 2, A Sequence 311, Sequence 311, Sequence 311, Sequence 311, Sequence 311, Sequence 311, Sequence 311, General Sequence 311, Sequence 311, Sequence 311, Sequence 311, General Sequence 311, Sequence 311, Sequence 311, General Sequence	
equence 826, equence 826, equence 826, equence 826, equence 100 equence 1100 equence 100, a equence 311, eque	က္ကက္က
ence 826, ence 826, ence 826, ence 826, ence 100 ence 1776, ence 1, A ence 311, ence 3	Sequenc Sequenc Sequenc
826. 826. 826. 11290 1290 1290 1290 1290 1290 1290 129	Sequence Sequence Sequence
0-0 4-11	
0—0 0—0 ×—×	தையில்
66, App 66, App 66, App 910, App 911, App 11,	Agg Agg Agg Agg

```
Sequence 1, Application US/09816494

Retent No. 6664089

GENERAL INFORMATION:

APPLICANT: MEYORE, Rachel A.

TITLE OF INVENTION: 38692 AND 21117, NOVEL DUAL SPECIFICITY

FILE REFERENCE: 10448-030002

CURRENT APPLICATION NUMBER: US/09/816,494

FILE REFERENCE: 10448-030002

CURRENT FILING DATE: 2001-03-23

PRIOR APPLICATION NUMBER: 60/191,858

NUMBER OF SEQ ID NOS: 10

SOFTWARE: FASTSEQ for Windows Version 4.0

LENGTH: 3544

TYPE: DNA

ORGANISM: Homo sapiens

FEATURE:

NAME/KEY: CDS

LOCATION: (589)...(2583)

US-09-816-494-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 2
US-09-816-494-1
                                                                                                                                                                               Matches
                                                                                                                                                                                          Query Match
Best Local Similarity
                           61 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC 120
                                                                                                                                                                       904; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        901 CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                    ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTGCTGCTGGAA 648
                                                                                            ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATATETECAAACTTEAATTTTETEGGECEAACTECTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        angaggarigakonterettragarigaagertracagartretgraaagaaaaaaagacertaet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                dradriddaktrightraddridddahrchololderfolddaktrigetahroddrig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGTGGTTGGACAATCAGTAGATTCATTGAGAAAAGCAAAAGCTCCAATGGATGTGTT 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGTGGTTGGACAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Arccccaagrericiarricerisegrorisecersisaaridaeacaserririgisadaaarririg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        c A G C A G A A T G G G A T T G G T T A A A T G C C A G C A A T A C C T G T C C A A A G C C T G A C T T T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGCAGAATGGGATTGGTTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ĊĠĀĀŤŦĊŤŤĊĊĊĀĀŤĊŤŤŦĀŤĊŦŤĠĠĊŤĠĊĊĀĠĆĠĀĠĀŤĠŤĊĊŤĊĀĀĊĀĀĠĠĀĠĊŤĠĀŤĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99.6%;
                                                                                                                                                            0;
                                                                                                                                                          Score 902.8; DB 4;
Pred. No. 3.3e-309;
0; Mismatches 2;
                                                                                                                                                                                        DB 4; Length 3544;
                                                                                                                                                          Indels
                                                                                                                                                     0;
                                                                                                                                                     Gaps
                                                                                                                                                 0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      54 C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
Sequence 3, Application US/09920668

Patent NO. 6482644

GENERAL INFORMATION:

APPLICANT: Lex M. Cowsert

APPLICANT: Brett P. Monia

TITLE OF INVENTION: ANTISENSE MODULATION OF DUAL SPECIFIC PHO:

FILE REFERENCE: RTS-0246

CURRENT APPLICATION UNUMBER: US/09/920,668

CURRENT FILING DATE: 2001-08-01

MUMBER OF SEQ ID NOS: 49
                                                                                                                                                                                                                                RESULT 3
US-09-920-668-3
                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                   Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                      1489
                                                                                                                                                                                                                                                                                                                                                                                                 1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1309
                                                                                                                                                                                                                                                                                                                                                        901
                                                                                                                                                                                                                                                                                                                                                                                             841 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                CAGACT 1494
                                                                                                                                                                                                                                                                                                                                                    CAGACT 906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 649
                                                                                                                                                                                                                                                                                                                                                                   ATATETECAAAETTECAATTTETEGGECEAAETECTGGACTATGAGAAGAAGATTAAGAAE 1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      crádrideácherriadecriddanterecederecedeciáceárederiantedecriación
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ccereerriegachanarcaerraearricarreaeanaecanaeccrecaareearerer 1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG 1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ĊAĠĆĀĠĀĀŢĠĠĠĀŢŢĠĠŢŢĀŢĠŢĠŢŢĀĀĀŢĠĊĊĀĠĊĀĀŢĀĊĊŢĠŢĊĊĀĀĀĠĊĊŢĠĀĊŢŢŢ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGĀĀTTĊTŤĊĊĊĀĀŤĊŤŦŤĀŤĊŤŤĠĠĊŤĠĊĊĀĠĊĠĀĠĀŤĠŤĊĊŤĊĀĀĊĀĀĠĠĀĠĊŤĠĀŤG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACTCTÁGTCCÁACCTGCÁTTTCTCÁGCCTTGCTTÁCCTGTTGCCÁACÁTTGGCCÁAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACAFTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ĊŦŦĠĊĀĠĠĠĠĠŦŦŦĠĊŦĠĀĠŦŦĊŦĊĠĠŦŦĠſŦŦĊĊĊŦĠĠĊĊŦĊŦĠŦĠĀĀĠĠĀĀĀĀŦĊĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                recadroada a de recada de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PHOSPHATASE 8 EXPRESSION
```

900

780

1188 600 1128

1068

1008 480

948 360 888 300 828

Ş

дb 5 밁 Ş 밁 S В Ś Дb Ŋ В Ś Дď S В Ś

5 g 5

Tue

Jun

22

16:59:26

US-09-920-668-3

2377;

147

224

207 284 87

NAME/KEY: CDS LOCATION: (135)...(2012)

LENGTH: 23 TYPE: DNA

2377

ORGANISM: Homo FEATURE:

sapiens

```
S
                                                                                                                                                                                                                                                                                                                                                                    ક
                                                                                                                                                                                                                                                                                                                                                                                                                                    ફ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                       문
                                                                                                                                                           ક
                                                                                                                                                                                           멍
                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                ર્શ
                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                         5
                                                                밁
                                                                                       ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 563;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
1005
                                                                                                  805
                                                                                                                                                                                                                                      685
                                                                                                                                                                                                                                                                                                         625
                                                                                                                                                                                                                                                                                                                                           705
                                                                                                                                                                                                                                                                                                                                                                           565
                                                                                                                                                                                                                                                                                                                                                                                                             645
                                                                                                                                                                                                                                                                                                                                                                                                                                                 505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              148 TGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28 ATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAAAGTGGAACGGAAAAAGTGCTGCTAATT
                                                                                         GAAGCTTACAGATTTGTGAAAGAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTG
                                                                                                                                                                                                                                      TTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTTCTAGTGCACTGTTTAGCTGGGATC
                                                                                                                                                                                                                                                                                                                                                                  TTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                  GGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTATGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGCCCTGCCTGTGCCCAGCGTGGGCCTGACCCGCATCCTGCCTCACCTCTACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCCTGCTTCCCCGGCCTCTGCGAGGGCAAGCCTGCTGCCCTGCTACCCATGAGCCTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACT---CTAGTCCCTACCTGCATTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAGCTGGACGGCTGCTTCGACAGCGTGGCCATCCTCACTGGGGGCTTCGCCACCTTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTTGCTGAGTTCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAAAGCTCCCAAGATGTTGCCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGCCGGCTGCACGCAGCCAGGTGGAGGCTACGGAGCCACAGGACGTGGTCTATGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGCATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCTCCAAGCTGGTGAAGCGGCGGCTGCAGCAGGGCAAGGTGACCATTGCGGAGCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACAGCCGCTCCTTCGTGGAGTACAACAGCTGGCATGTGCTCAGCTCCGTCAACATCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GATAGCCGGCCATTTGTGGAATACAATACATCCCACATTTTGGAAGCCATTAATATCAAC
GGCCAGCTGCTGGAGTACGAGCGCACGCTGAAG 1037
                              GGCCAACTCCTGGACTATGAGAAGAAGATTAAG 897
                                                                   GACGCCTACAGGTTCGTGAAGGACAGGCGCCCGTCCATCTCGCCCAACTTCAACTTCCTG
                                                                                                                                    TCCCGCTCTGCCACCATCGCCATCGCCTACATCATGAAGACCATGGGCATGTCCTCCGAC
                                                                                                                                                                  TCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGAT
                                                                                                                                                                                                    GTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAATCAGTAGAT
                                                                                                                                                                                                                                                                                                                                            CTCAACGCCAGCAACTCCTGCCCCAAGCCTGACTTCATCTGCGAGAGCCGCTTCATGCGG
                                                                                                                                                                                                                                                                                                                                                                                                               GGCTCGCAGAAGGACGTCCTAAACAAGGATCTGATGACGCAAAATGGAATAAGCTACGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGAGCACGCGGGACGCCAGCGTGCTGGCCGCAGACAGCTTCCTCCCATCCTGCTGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      40.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 365.8; DB 4; Length Pred. No. 8.8e-119; O; Mismatches 307; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ω
••
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
```

584

444

504

524 387 464 327 404 267

1004

RESULT 5
US-09-557-921-1
; Sequence 1, Application
; Patent No. 6551810

US/09557921

804

944

744

884

684

764

824

```
밁
                                                                                                   5
                                                                                                                                        밁
                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 4
US-09-016-434-91
 문
                           8
                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                        US-09-016-434-91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: Zeller, Karen J.
REGISTRATION NUMBER: 37,071
REFERENCE/DOCKET NUMBER: PA-0
TELECOMMUNICATION INFORMATION:
TELEPHONE: (650) 85-0555
TELEPAX: (650) 85-4166
INFORMATION FOR SEQ ID NO: 91:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 91, Applia Patent No. 6500938
                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:

APPLICANT: Janice Au-Young
APPLICANT: Jeffrey J. Seilhamer
TITLE OF INVENTION: COMPOSITION FOR THE DETECTION OF SIGNALING
TITLE OF INVENTION: PATHWAY GENE EXPRESSION
NUMBER OF SEQUENCES: 1490
                                                                                                                                                                                                                                                                                                                                                                     STRANDEDNESS: single
TOPOLOGY: linear
IMMEDIATE SOURCE:
LIBRARY: LUNGFET03
CLONE: 1234795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Word Perfect 6.1 for Windows/MS-DOS
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION DATA: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
ADDRESSEE: INCYTE PHARMACEUTICALS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: FILING DATE: HEREWI CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: 3174 PORTER DRIVE CITY: PALO ALTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH:
                                  181
                                                                                                       121
                                                                                                                                          85
                                                                                                                                                                           13
                                                                                                                                                                                                              25
                                                                                                                                                                                                                                             1 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           94304
                                                                                                                                                                                                                                                                                                                                                                                                                                                           nucleic acid
                    GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAAC 223
                                                                                          CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                              ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                       CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                        AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Application US/09016434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            279 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             USA
                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HEREWITH
                                                                                                                                                                                                                                                                                                24.6%; Score 223; DB 4; 100.0%; Pred. No. 8.5e-69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US/09/016,434
                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PA-0002
                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ន
                                                                                                                                                                                                                                                                                                  8.5e-69;
                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                 Length 279
                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                  Gaps
                                                                       204
                                                                                                          180
                                                                                                                                             144
                                                                                                                                                                              120
                                                                                                                                                                                                               84
                                                                                                                                                                                                                                                  60
```

```
US-09-922-146-3
                                                                                                                                                                                                                          RESULT 6
US-09-922-146-3
; Sequence 3, Application US/09922146
; Patent No. 6566133
                                                                                                                                                                                                                                                                                                                                             멂
                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                          GENERAL INFORMATION:
APPLICANT: Lex M. Cowsert
APPLICANT: Brett P. Monia
TITLE OF INVENTION: ANTISENSE MODULATION OF DUAL SPECIFIC PHOSPHATASE 9 EXPRESSION
FILE REFERENCE: RTS-0252
CURRENT APPLICATION NUMBER: US/09/922,146
RUMBER OF SEQ ID NOS: 48
TYDE: NON
SEQ ID NO 3
LENGTH: 2303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
 TYPE: DNA
ORGANISM: Homo sapiens
FEATURE:
FEATURE:
NAME/KEY: CDS
LOCATION: (114)...(1268)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: FastSEQ for Wi
SEQ ID NO 1
LENGTH: 1830
TYPE: DNA
ORGANISM: Homo sapiens
US-09-557-921-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       $
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
TITLE OF INVENTION: DSP-10 DUAL-SPECIFICITY PHOSPHATASE
FILE REFERENCE: 200125 416
CURRENT APPLICATION NUMBER: US/09/557,921
CURRENT FILING DATE: 2000-04-20
NUMBER OF SEQ ID NOS: 20
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                   1396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                                                                                                                                                            1456 AGTTCGAGGAAGACCTAAACAAC 1478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1336
                                                                                                                                                                                                                                                                                                                                                                      878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1216
                                                                                                                                                                                                                                                                                                                                                                                                                                 818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1096 CTCAGGÁCCTGGÁCACCATGCAGCGGCTGAACÁTCGGCTÁCGTCAACGTCÁACGTCÁCCACTC 1155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          581 CCTGTCCAAAGCCTGACTTT----ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                461 TTGCCAACATTGGGCCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      251;
        (114) ... (1268)
                                                                                                                                                                                                                                                                                                                                                          ACTATGAGAAGAAGATTAAGAAC 900
                                                                                                                                                                                                                                                                                                                                                                             TTĠŤĊĂĀĀĠĠĊĀĀĀĊĠĀĊĊĀĀTTĀŤĊŤĊĊĊĊĀĀĀĊĊŤTĀĀĊŤŤĊĄŤĠĠĠĠĊĀGTŤĠĊŤŖĠ
                                                                                                                                                                                                                                                                                                                                                                                                      TTGTGAAAGAAAAAAAGACCTACTATATCTCCAAACTTCAAATTTTCTGGGCCAACTCCTGG 877
                                                                                                                                                                                                                                                                                                                                                                                                                                        ĆĆĀTĊĠŦĊĀŦĊĠĊŦŦĀĊŦŦĠĀŦĠĀĀĠCACĀCŦCGGĀŤĠĀĊCAŤGĀCŤĠĀŦĠĊŦŤĀTĀĀĀŤ 1395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCATCGCCTATCGCCTACATCATGAAGAAGATGGACATGTCTTTAGATGAAGCTTACAGAT 817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTCACCAGTGTGGGAAGGGGTTCTCATCCACTGCCAGGCTGGGGGTGTCCCGGCTCCGGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAAAAGCCTCCAATGGATGTGTTTAGTGGATGTTTAGCTGGGATCTCCGGCTCCGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACAGCAACAAGCAGAACCTGCGGCAGTACTTTGAAGAGGCTTTTGAGTTCATTGAGGAAG 1275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACAGCTTTTGTGAGAAAAFTTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCTTCCCTCTACCÁCTATGAGÁAAGGCCTGTTCAÁCTACAAGCGGCTGCCAGCCACTG 1215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCTCAACAAGGAGCTGATACAGCAGAATGGGATTGGTTAATGTGTTAAATGCCAGCTATA 580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rcéagaacergaéctcaéceccarerreécerrecregrectrégeaatgageaggarg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13.8%;
56.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 124.6; DB 4; Length Pred. No. 2.8e-33; O; Mismatches 189; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 1830;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                               1455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    520
```

```
US-09-016-434-1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 1135, Application US/09016434
Patent No. 6500938
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       묽
                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER: 9A
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WOR'D PERFECT 6.1 for Windows/MS-DOS
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/016,434
FILING DATE: HEREWITH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: 31/2
STREET: 9ALO ALTO
CITY: PALO ALTO
CTATE: CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
ADDRESSEE: INCYTE PHARMACEUTICALS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Janice Au-Young
APPLICANT: Jeffrey J. Seilhamer
TITLE OF INVENTION: COMPOSITION F
TITLE OF INVENTION: PATHMAY GENE
NUMBER OF SEQUENCES: 1490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches 229;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                               NAME: Zeller, Karen J. REGISTRATION NUMBER: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1083 AAGTCTAACATCTCCCCCAACTTCAACTTCATGGGGCAGTTGCTGGACTTTGAG 1136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    712 GGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCCGCCTCCGCCACCATCGCTATCGCC 771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    843 TTCGAGAAGAATGGTGACTTTCACTACAAGCAGATCCCCATCTCCGACCACTGGAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                592 CCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTTGTGAATGACAGCTTTTGTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 783 AGCCTGGCCAÁACTGGGCÁTCCGCTÁCATCCTCÁÁTGTCÁCCCCCÁACCTCCCÁAÁCTTC 842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         535 CTGAȚACAGCAGAATGGGAȚTGGTȚATGTGTTAAATGCCAGCTATACCTGTCCAAA----G 591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  475 CCAACCCGAATTCTTCCCAATCTTTATCTTGCCTGCCAGCGAGATGTCCTCAACAAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGACCTACTATATCTCCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TÁCCTCATGCAGAAGCTCCACCTCTCTCTCAACGATGCCTATGACCTGGTCAAGAGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     recegeracione de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta de la constanta 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AACCTGTCGCGGTTCTTTCCGGAGGCCATTGAGTTCATTGATGGCCTTGTCCCAGAAC 962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAAGCCTCCAAT 711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3174 PORTER DRIVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cererecagarecracical acereratera de consecuente de la consecuencia de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera de la cerera del la cerera del cerera de la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera del la cerera
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                      855-0555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             11.8%;
                                                                                                                                                                                                                                                  PA-0002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    °,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 106.8; DB
Pred. No. 7e-27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FOR THE DETECTION EXPRESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                  SD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  182;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIGNALING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2303;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ω
••
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1;
```

Tue

Jun

22

16:59:26 2004

IMMEDIATE SOURCE:

linear)URCE: GENBANK

TOPOLOGY:

STRANDEDNESS:

single

nucleic acid

```
8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; LIBRARY: GENBAN
; CLONE: g1418933
US-09-016-434-1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-023-655-946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       გ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 946, Application US/09023655
Patent No. 6607879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity 53.8 Matches 222; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                         CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                       CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
FILING DATE: HEREWITH
                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: COMPOSITION TITLE OF INVENTION: EXPRESSION NUMBER OF SEQUENCES: 1508
                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
TTORNEY/AGENT INFORMATION:
                                                                                                                                                                                   MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOPTWARE: Word Perfect 6.1 for Windows/MS-DOS 6.2
                                                                                                                                                                                                                                                                                                                                      CITY: PALO ALTO
STATE: CALIFORNIA
                   FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                  STREET:
                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1159 CAGTTTTTCCCTGAGGCCATTTCTTTCATAGATGAAGCCCGGGGCAAGAACTGTGGTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1279 CAGAAGCTCAATCTGTCGATGAACGATGCCTATGACATTGTCAAAATGAAAAAATCCAAC 1338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1219 TTGGTACATTGCTTGGCTGGCATTAGCCGCTCAGTCACTGTGACTGTGGCTTACCTTATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1099 GCAGGAGAGTTTAAATACAAGCAAATCCCCATCTCGGATCACTGGAGCCAAAACCTGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   841 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAT 893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    544 CAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGC---CTGACTTT 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         484 ATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG
                                                                                                                                                                                                                                                                                                  94304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATATCCCCTAACTTCAACTTCATGGGTCAGCTGCTGGACTTCGAGAGGACGCT 1391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAATTCGGCATCAAGTACATCTTGAACGTCACCCCCAATTTGCCGAATCTCTTTGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATCTTGCCCTTCCTACTTGGGCTGTGCCAAAGACTCCACCAACTTGGACGTGTTGGAG
                                                                                                                                                                                                                                                                                                                                                                                3174 PORTER DRIVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cocks, Benjamin G.
Susan G. Stuart
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Jeffrey J. Seilhamer
VENTION: COMPOSITION
                                                                                                                                                                                                                                                                                                                    USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10.6%;
                                                                                                                                              US/09/023,655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 96.2; DB 4; Length 2
Pred. No. 3.8e-23;
0; Mismatches 188; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FOR THE DETECTION OF BLOOD CELL GENE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 2109;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1098
```

```
Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-023-655-946
                                                                                                                                                                                                                                                                                                                                                                                                            US-09-023-655-347
                                                                                                                                                                                                                                                                                                                                              Sequence 347, Application US/09023655 Patent No. 6607879 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 222; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: (650) 845-4166
INFORMATION FOR SEQ ID NO:
                                                      COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                 APPLICANT: Cocks, Benjamin G. APPLICANT: Susan G. Stuart APPLICANT: Jeffrey J. Seilhamer TITLE OF INVENTION: COMPOSITION TITLE OF INVENTION: EXPRESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Zeller, Karen J.
REGISTRATION NUMBER: 37,071
REFERENCE/DOCKET NUMBER: PA
TELECOMMUNICATION INFORMATION:
TELEPHONE: (650) 855-0555
                                                                                                                                                                                                       NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 2109 base pair
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Word Perfect 6.1 for Windows/MS-DOS 6.2
                                                                                                                                                   STREET: 3174 PORTER DRIVE CITY: PALO ALTO
                                                                                                                COUNTRY:
                                                                                                                                                                                         ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LIBRARY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1039 GAATTCGGCATCAAGTACATCTTGAACGTCACCCCCAATTTGCCGAATCTCTTTGAGAAC 1098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          979 ATCTTGCCCTTCCTACTTGGGCTGTGCCAAAGACTCCACCAACTTGGACGTGTTGGAG 1038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  544 CAGAATGGGATTGGTTAATGTGTTAAATGCCAGCTATACCTGTCCAAAGC---CTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              484 ATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG
                                                                                              94304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCAGGAGAGTTTAAATACAAGCAAATCCCCATCTCGGATCACTGGAGCCAAAACCTGTCC 1158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATATCCCCTAACTTCAACTTCATGGGTCAGCTGCTGGACTTCGAGAGGACGCT 1391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAT 893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGAAGCTCAATCTGTCGATGAACGATGCCTATGACATTGTCAAAAATGAAAAAATCCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGTTTTTCCCTGAGGCCATTTCTTTCATAGATGAAGCCCGGGGCAAGAACTGTGGTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTGGTACATTGCTTGGCTGGCATTAGCCGCTCAGTCACTGTGACTGTGGCTTACCTTATG
                                                                                                                                  CALIFORNIA
                                                                                                                USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENBANK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                           INCYTE PHARMACEUTICALS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10.6%;
                                                                                                                                                                                                                                 1508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            946:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PA-0001 US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 96.2; DB 4;
Pred. No. 3.8e-23;
0; Mismatches 188;
                                                                                                                                                                                                                                                                       FOR
                                                                                                                                                                                                                                                                       THE DETECTION OF BLOOD CELL GENE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 2109;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           660
```

```
CURRENT APPLICATION NUMBER: US/09/702,705
CURRENT FILING DATE: 2000-10-30
NUMBER OF SEQ ID NOS: 1833
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 801
SEQ ID NO 801
LENGTH: 1619
TYPE: DNA
ORGANISM: Homo sapien
   US-09-702-705-801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 10
US-09-702-705-801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; IMMEDIATE SOURCE:
; LIBRARY: THYRN
; CLONE: 1444245
US-09-023-655-347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 801, App
Patent No. 650401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                           APPLICANT: Mannion, Jane
APPLICANT: Fan, Liqun
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C14
                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 64.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 1208 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: (650) 845-4166
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Zeller, Karen J.
REGISTRATION NUMBER: 37,071
REFERENCE/DOCKET NUMBER: PA-0
TELECOMMUNICATION INFORMATION:
TELEPHONE: (650) 855-0555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION DATA:
NUMBER: US/09/023,655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            184 TCATGGGGCAGTTGCTAGAGTTCGAGGAAGACCTAAACAAC 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         860 TTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   124 TGACTGATGCTTATAAATTTGTCAAAGGCAAACGACCAATTATCTCCCCCAAACCTTAACT 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      680 TAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           142;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            64
                                                                                                                                               FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fanger, Gary
Vedvick, Tom
Carter, Darrick
Retter, Marc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TAGATGAAGCTTACAGATTTGTGAAAGAAAAAAAGACCTACTATATCTCCAAACTTCAATT 859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    édererecederecede de la recentration de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de la recedencia de 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAGAAGAGGATGGACATGTCTT 799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTGAGTTCATTGAGGAAGCTCACCAGTGTGGGAAGGGGCTTCTCATCCACTGCCAGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wang, Tongtong
Bangur, Chaitanya S.
Lodes, Michael A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Application US/09702705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      THYRNOT03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HEREWITH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        347:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 94.6; DB 4;
Pred. No. 9.3e-23;
0; Mismatches 79;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PA-0001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1208;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
```

```
밁
                                            Ś
                                                                                                      Ş
                                                                            맑
                                                                                                                                                                                                  ; ORGANISM: Homo sapien US-09-736-457-801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 11
US-09-736-457-801
                                                                                                                            Query Match
Best Local Similarity
Matches 218; Conservat
                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/736,457
CURRENT FILING DATE: 2000-12-13
NUMBER OF SEQ ID NOS: 1864
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFO
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                         APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Man, Liqun
APPLICANT: Mang, Aijun
TITLE OF INVENTION: COMPOSITIONS AND METHODS:
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 801, Application US/09736457
Patent No. 6509448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                              LENGTH: 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 218;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local (
380 GCCCTGGGCÁTCACGGCTCTGTTGAÁTGTCTCCTCGGACTGCCCAÁÁCCC---ÁCTTTGAA 436
                        544 CAGAATGGGATTGGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATC 603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            844 TCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAT 893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          784
                                                                                                                                                                                                                                              1619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             724 GTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAG 783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  497 Tégritcatggáágócaiaéágracaitcéatgccétgáágéaétgécegiédecétégig 556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           604 CCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         380 GCCTGGGCÁTCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCÁAÁCC---ÁCTTTGAA 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  544 CAGAATGGGATTGGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATC 603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     320 ATCCTTCCCTTCCACCTCGGCAGTGCCTACCATGCTGCCGGAGAGACATGCTGGAC 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   484 ATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG
                                                                                 ATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG 543
                                                          ATCCTTCCTCCTACCTCGGCAGTGCCTACCATGCTGCCGGAGAGACATGCTGGAC
                                                                                                                                                                                                                                                                      FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                          Bangur, Chaitanya
Lodes, Michael A.
Fanger, Gary
Vedvick, Tom
Carter, Darrick
Retter, Warc
Mannion, Jane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCGCCCAACTTCAGCTTCATGGGGCAGCTGCTGCAGTTCGAGTCCCAGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGCATTATC 676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTGCACTGCCAGGCGGCÁTCTCGCGGTCGGCCACCATCTGCCTGGCCTÁCCTGÁTGÁTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Wang,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTTCTA 723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGACÁCTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGÁCÁTCAGCTCC
                                                                                                                                 10.1%;
ilarity 53.2%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  , Tongtong
ur, Chaitanya
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10.1%;
                                                                                                                         Score 91.6; DB 4;
Pred. No. 1.3e-21;
0; Mismatches 189;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ß
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 91.6; DB 4;
Pred. No. 1.3e-21;
0; Mismatches 189;
                                                                                                                              189;
                                                                                                                                                                                                                                                                                                                                                        FOR THE THERAPY AND
                                                                                                                                                        Length 1619;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 1619;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                         υ
•
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    w
--
                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                             379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             663
```

```
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Lodes, Michael A.
APPLICANT: Lodes, Michael A.
APPLICANT: Vedvick, Tom
APPLICANT: Vedvick, Tom
APPLICANT: Retter, Darrick
APPLICANT: Retter, Marc
APPLICANT: Mannion, Jane
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THERAPY AND
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 2012.1.478C9
CURRENT APPLICATION NUMBER: US/09/614,124B
CURRENT FILING DATE: 2001-07-11
                                                                   S
                                                                                                                                          श्
                                                                                                                                                                                         밁
                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                  ş
                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                  밁
                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-614-124B-801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQ ID NOS: 1668
SOFTWARE: PastSEQ for Windows Version 3.0
SEQ ID NO 801
LENGTH: 1619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 801, Application US/09614124B Patent No. 6630574 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 10.1%;
Best Local Similarity 53.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA
ORGANISM: Homo sapien
09-614-124B-801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Wang, Tongtong
APPLICANT: Bangur, Chaitanya
APPLICANT: Lodes, Michael A.
784
                                                                         724
                                                                                                                 497
                                                                                                                                                      664
                                                                                                                                                                                           437 GGACÁCTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATCAGCTCC
                                                                                                                                                                                                                               604 CCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTGCCG
                                                                                                                                                                                                                                                                    380 GCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAACC---ACTTTGAA
                                                                                                                                                                                                                                                                                                           544 CAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATC 603
                                                                                                                                                                                                                                                                                                                                                                                      484 ATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              437
GTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAG
                                                                                                                                                    TGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTA
                                                                                                                                                                                                                                                                                                                                                 ATCCTTCCCTTCCTCTACCTCGGCAGTGCCTACCATGCTGCCCGGAGAGACATGCTGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCGCCCAACTTCAGCTTCATGGGGCAGCTGCTGCAGTTCGAGTCCCAGGT 726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAT 893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTGCACTGCCAGGCGGCATCTCGCGGTCGGCCACCATCTGCCTGGCCTACCTGATGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCCAATGGATGTTCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATCAGCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCG
                                  GTGCACTGCCAGGCGGCATCTCGCGGTCGGCCACCATCTGCCTGGCCTACCTGATGATG
                                                                                                                 TGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGCGTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGCATTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGCGTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                             Score 91.6; DB 4;
Pred. No. 1.3e-21;
0; Mismatches 189;
                                                                                                                                                                                                                                                                                                                                                                                                                               189;
                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1619;
                                                                                                                                                                                                                                                                                                                                                                                                                               ω
••
                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                  616
                                                                         783
                                                                                                                 556
                                                                                                                                                                                           496
                                                                                                                                                                                                                                 663
                                                                                                                                                                                                                                                                      436
                                                                                                                                                                                                                                                                                                                                                   379
                                                                                                                                                                                                                                                                                                                                                                                        543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              496
                                                                                                                                                    723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 556
```

```
5
                                                               밁
                                                                                            δ
                                                                                                                              문
                                                                                                                                                       δ
                                                                                                                                                                                             밁
                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                          ঠ
                                                                                                                                                                                                                                                                                                                              맑
                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 13
US-09-671-325-801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; ORGANISM: Homo sapien US-09-671-325-801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: Fas
SEQ ID NO 801
LENGTH: 1619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION: APPLICANT: Wang, T
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Patent No. 666715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/671,325
CURRENT FILING DATE: 2000-09-26
NUMBER OF SEQ ID NOS: 1825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: COMPOSITIONS AND METHODS TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER FILE REFERENCE: 210121.478C12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Retter, Mar
APPLICANT: Mannion, Ja
APPLICANT: Fan, Liqun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
les 218; Conserv
                              844
                                                               617
                                                                                                                              557
                                                                                                                                                                                              497
                                                                                                                                                                                                                                                             437
                                                                                                                                                                                                                                                                                              604
                                                                                                                                                                                                                                                                                                                              380
                                                                                                                                                                                                                                                                                                                                                                                                                       484 ATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG
                                                                                             784
                                                                                                                                                            724
                                                                                                                                                                                                                               664
                                                                                                                                                                                                                                                                                                                                                    544 CAGAATGGGATTGGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATC
                                                                                                                                                                                                                                                                                                                                                                                               320 ATCCTTCCCTTCCTACCTCGGCAGTGCCTACCATGCTGCCCGGAGAGACATGCTGGAC 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         844 TCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAT
                                                                                                                                                                                                                                                                                              CCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCG
                                                                                                                                                                                                                                                                                                                              GCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAACC---ACTTTGAA 436
                                                                                                                                                           GTGCACTGTTTAGCTGGGATCTCCGCCTCCGCCACCATCGCTATCGCCTACATCATGAAG
                                                                                                                                                                                                                                                               GGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATCAGCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCGCCCAACTTCAGCTTCATGGGGCAGCTGCTGCAGTTCGAGTCCCAGGT
                                TCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAT 893
                                                                                             TGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAAGCCTCCAATGGATGTGTTCTA
TCGCCCAACTTCAGCTTCATGGGGCAGCTGCTGCAGTTCGAGTCCCAGGT 726
                                                                AAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGCATTATC
                                                                                                                               GTGCACTGCCAGGCGGGCATCTCGCGGTCGGCCATCTGCCTTGGCCTACCTGATGATG
                                                                                                                                                                                              TGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGCGTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGCATTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Fanger, Gary
Vedvick, Tom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Wang, Tongtong
Bangur, Chaitanya
Lodes, Michael A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Carter, Darrick
Retter, Marc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mannion, Jane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Application US/09671325
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 91.6; DB 4;
Pred. No. 1.3e-21;
0; Mismatches 189;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BHI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 1619;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              THERAPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                            u
T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            893
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                               723
                                                                676
                                                                                               843
                                                                                                                              616
                                                                                                                                                              783
                                                                                                                                                                                              556
                                                                                                                                                                                                                                                               496
                                                                                                                                                                                                                                                                                                663
                                                                                                                                                                                                                                                                                                                                                                603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             676
```

RESULT 14 US-09-589-184-801

Sequence 801, Application US/09589184 Patent No. 6686447 GENERAL INFORMATION:

```
APPLICANT: Wang, Tongtong
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Lodes, Michael A.
APPLICANT: Lodes, Michael A.
APPLICANT: Lodes, Michael A.
APPLICANT: Vedvick, Tom
APPLICANT: Vedvick, Tom
APPLICANT: Marcick
APPLICANT: Marnion, Jane
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C8
CURRENT APPLICATION NUMBER: US/09/589,184
CURRENT FILING DATE: 2000-6-05
SOFTWARE: FastSEQ for Windows Version 3.0
LENGTH: 1619
                                                                                                                                                                                                   ; Sequence 804, Applicat
; Patent No. 6504010
; GENERAL INFORMATION:
; APPLICANT: Wang, Tor
                                                                                                                                                                                                                                                                       RESULT 15
US-09-702-705-804
                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                   APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-589-184-801
APPLICANT: Fan, Liqun
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C14
CURRENT APPLICATION NUMBER: US/09/702,705
CURRENT FILING DATE: 2000-10-30
                                                                                                                                                              APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 10.1%;
Best Local Similarity 53.2%;
Matches 218; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 1619
TYPE: DNA
ORGANISM: Homo sapien
                                                                                                                                                                                                                                                                                                                                       677
                                                                                                                                                                                                                                                                                                                                                                   844
                                                                                                                                                                                                                                                                                                                                                                                                 617
                                                                                                                                                                                                                                                                                                                                                                                                                                                               557
                                                                                                                                                                                                                                                                                                                                                                                                                                784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          664
                                                                                                                                                                                                                                                     804, Application US/09702705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              484
                                                                                             Bangur, Chaitan
Lodes, Michael A
Fanger, Gary
Vedvick, Tom
Carter, Darrick
Retter, Marc
Mannion, Jane
                                                                                                                                                                                                                                                                                                                          rcseccaaciircagciicaigggagcagcigcigcagiircgagicccaggi 726
                                                                                                                                                                                                                                                                                                                                                 TCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAT 893
                                                                                                                                                                                                                                                                                                                                                                                    AAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGCATTATC
                                                                                                                                                                                                                                                                                                                                                                                                               GTGCACTGCCAGGCGGGCATCTCGCGGTCGGCCATCTGCCTGGCCTACCTGATGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGCACTGTTTAGCTGGGATCTCCGCGCCCACCATCGCTATCGCCTACATCATGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATCAGCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGCGTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ccceaercrearracerecrerecrerecreareacaecrerereraaaaaaarracece
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCCTGGGCÀTCACGGCTCTGTTGAÀTGTCTCCTCGGACTGCCCÀAACC---ÀCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wang, Tongtong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG 543
                                                                                                                                                                                           Chaitanya
                                                                                                                                                                                         Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 91.6; DB 4;
Pred. No. 1.3e-21;
0; Mismatches 189;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FOR
                                                             THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       THERAPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 1619;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                            THERAPY AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                u
T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                  616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    603
```

Į

```
맑
                                     Ş
                                                                    뮍
                                                                                          Ş
                                                                                                                          밁
                                                                                                                                                   Ş
                                                                                                                                                                                    밁
                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-702-705-804
                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQ ID NOS: 1833
SOFTWARE: FASTSEQ for Windows
SEQ ID NO 804
LENGTH: 4637
                                                                                                                                                                                                                                                                                                                                                                                                                  Matches 218;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
ORGANISM: Homo
            677
                                        844
                                                                  617
                                                                                784 AGGATGGACATGTCTTTAGATGAAGGCTTAÇAGATTTTGTGAAAGAAAAAAAGACCTACTATA
                                                                                                                          557
                                                                                                                                                                                  497
                                                                                                                                                        724
                                                                                                                                                                                                              664
                                                                                                                                                                                                                                          437
                                                                                                                                                                                                                                                        604 CCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTGCCG
                                                                                                                                                                                                                                                                                      380 GCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAACC---ACTTTGAA 436
                                                                                                                                                                                                                                                                                                          544 CAGAATGGGATTGGTTATATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTTATC
                                                                                                                                                                                                                                                                                                                                                                      484 ATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATACAG
reseccaaciricaecricareses as receisors cas arresas receisors
                     TCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAT
                                                       AAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGCATTATC
                                                                                                               GTGCACTGCCAGGCGGCÁTCTCGCGGTCGGCCACCATCTGCCTGGCCTACCTGATGATG
                                                                                                                                        GTGCACTGTTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATGAAG
                                                                                                                                                                      TGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGCGTGCTG
                                                                                                                                                                                             TGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTA 723
                                                                                                                                                                                                                              GGACÁCTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGÁCATCAGCTCC
                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                           10.1%;
53.2%;
                                                                                                                                                                                                                                                                                                                                                                                                             ;
                                                                                                                                                                                                                                                                                                                                                                                                          Score 91.6; DB 4;
Pred. No. 2.9e-21;
0; Mismatches 189;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Version
                                                                                                                                                                                                                                                                                                                                                                                                             189;
                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 4637;
                                                                                     843
                                                                                                                 616
                                                                                                                                           783
                                                                                                                                                                                                                               496
                                                                                                                                                                                                                                                                                                                   603
                                                                                                                                                                                                                                                                                                                                                                             543
                                                                                                                                                                                                                                                                                                                                                 379
```

Search completed: June 22, 2004, 02:56:09 Job time: 75.9535 secs

```
Tue Jun
```

```
Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -MODEL-frame+_p2n.model -DEV=xlh
-Q=/Ggn2 1/USFTO spool/US10029345/runat 21062004 164146 29030/app_query.fasta_1.1294
-DB=GenEmbl -QFMT=fastap_ -SUFFIX=5ge -WINMATCH=0.1 -LOOPCL=0 -LOOPEXT=0
-UNITS=bits -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi -LIST=45
-DOCALIGN=200 -THR SCORE-pct -THR MAX=100 -THR MIN=0 -ALIGN=1.5 -MODE=LOCAL
-OUTFMT=pto -NORM=ext -HEAPSIZE=500 -MILEN=0 -MAXLEN=200000000
-USER=US10029345 @CGN 1 1 6617 @runat 21062004 164146 29030 -NCPU=6 -ICPU=3
-NO_MMAP -LARGEQUERY -NEG -SCORES=0 -WAIT -DSPELOCK=100 -LONGLOG
-DEV TIMEOUT=120 -WARN_TIMEOUT=30 -THREADS=1 -XGAPEXT=0.5 -FGAPOP=6
-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OM protein - nucleic search, using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Command line parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BG BG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Xgapop 10.0,
Ygapop 10.0,
Fgapop 6.0,
Delop 6.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GenEmbl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3470272 seqs, 21671516995 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-029-345A-109
3418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         June 21, 2004, 21:02:42 ; Search time 7805.33 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MAHEMIGTQIVTERLVALLE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                              gb_ba:*
gb_htg:*
gb_in:*
                                                                                                                                                       em_fun:*
em_hum:*
em_in:*
                  em_pat:*
em_ph:*
                                                                                                 em_om:*
                                                                                                                                                                                                                                                    gb_sy:*
gb_un:*
em_ro:*
                                                                            em_ov: *
                                                                                                                                     em_mu:*
                                                                                                                                                                                                                                                                                                                                                                                          pat:
                                                                                                                                                                                                                                                                                                                                                                                                                                  om:
                                                                                                                                                                                                                                                                                                                                                                                                                07:
                                                                                                                                                                                                                                                                                                             ro:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Xgapext
Ygapext
Fgapext
Delext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             frame_plus_p2n model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (without alignments)
3692.750 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LGKVGSQSSFSGSMEIIEVS 665
```

```
29: em_vi:*
30: em_htg_hum:*
31: em_htg_inv:*
32: em_htg_other:*
33: em_htg_mus:*
34: em_htg_pln:*
35: em_htg_mam:*
36: em_htg_mam:*
36: em_htg_wrt:*
36: em_htg_wrt:*
38: em_sy:*
40: em_htgo_hum:*
41: em_htgo_other:*
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No. a o o 22542116 2016 1733.5 1733.5 3388 3379.5 3379.5 3373 3358.5 3163 3096.5 3096.5 3079.5 3057.5 1643.5 1643.5 1505.5 1422.5 3048. 3048. 3017. Score 100.0 5450 99.6 2732 99.6 31059 99.6 31059 99.6 31496 99.6 3521 99.6 3766 99.6 4790 99.6 4790 99.6 4790 99.6 4790 99.1 2111 98.9 3284 98.7 22128 99.1 4875 99.6 4975 99.6 4975 99.6 4975 99.6 4975 99.7 22128 89.2 233328 89.2 233328 89.2 33328 89.2 33328 89.3 4992 50.4 244605 50.4 244605 50.4 250782 48.1 11916 48.1 129782 48.1 11916 48.1 129782 48.1 129782 48.1 129782 48.1 129782 48.1 129782 48.1 129782 48.1 129782 48.1 129782 48.1 129782 48.1 129782 48.1 220782 38.8 22377 38.8 22377 Query Match Length BB 10 6 9 5 10 6 2 2 2 2 2 2 2 10 ωσουσουσο AX482372 AX921917 BC042101 AC133722 AC097818 AC128093 AF506796 AX374994 BD171157 BD183422 Ħ AB051487 AX180875 AX405700 de Ormania. AX835305 Sequence AX093310 Homo sapi AF345953 Mus muscu BC063941 Danio rer BC045110 Homo sapi AR255944 Sequence U27193 Human prote AX482444 Sequence AY038927 Homo sapi AX441229 Sequence AF345951 Mus muscu AF345952 Mus muscu AX482372 Sequence AX921917 Sequence BC042101 Homo sapi AX099933 Sequence BC031643 Homo sapi BC059232 Mus muscu BC057321 Mus muscu AX0624157 Mus muscu BD183422 | AB051487 | AX713989 | AX055973 | AB052156 Homo sapi AX260340 Sequence AX374994 AF506796 AX405700 AX482439 Sequence AX482478 Sequence Description Homo sapi Homo sapi Mus muscu Mus muscu Rattus no Rattus no Sequence Novel gen Novel gen Novel gen Sequence Sequence Sequence Sequence Sequence Sequence Mus muscu

ALIGNMENTS

ent Scores: No.: L Similarity ocal Similar watch: 1 Meta 538 ATGG 21 SerG;	/note="unnamed protein product" /codon_start=1 /protein_id="CAD44451.1" /protein_id="CAD44451.1" /db_xref="01:22316985" /db_xref="01:22316985" /db_xref="01:22316985" /translation="WAHEMIGTQIVTERLVALLESGTEKVILIDSRPFVEYNTSHILE FLITILIGHCANASTICHENDICCSOKVVVYDQSSQDVASLSSDC FLITILIGHCANASTICHENDICCSOKVVVYDQSSQDVASLSSDC FLITILIGHCANASTICHENDICCSOKVVVYDQSSQDVASLSSDC FLITILIGHCANASTICHENDICCSOKVVVVYDQSSQDVASLSSDC RILPMLDKSVDFIEKAKASNGCVVLVHCLAGISRSATIAIAYIKKMDMSLDEAVRFVKE TLEMEDKSVDFIEKAKASNGCVVLVHCLAGISRSATIAIAYIKKMDMSLDEAVRFVKE KRFTISPNFNFLGOLLDYEKKIKNQTGASGFKSKLKLLHLEKEMEPVPAVSEGGOKSE SNKLKRSFSLDIKSVSYSASMAASLHGFSSSSEDALETYKFSTTEDGTMKLCOFSPVOE SNKLKRSFSLDIKSVSYSASMAASLHGFSSSSEDALETYKFSTTEDGTMKLCOFSPVOE VEDDYHTSFIFELSTSQOHLTKSAGLGLKGWHSDILAFOTSTPSLTSSWYFATESSHF SSASAIYGGSASYSAYSGCOLPTCGDQVYSVRKRQKPSDRADSRRSWHEESPFEKQFK RRSCQMEFGESIMSENRSREELGKVGSOSSFSCSMEILESSFERSGFFKQFK RRSCQMEFGESIMSENRSREELGKVGSOSSFSCSMEILESSFERSHEESPFEKQFK	/organism="Homo sapiens" /mol_type="unassigned DNA" /db_xref="taxon:9606" CDS 538535	Suchard, Suchard, Suchard, Suchard, Suchard, Polynuclee, Polynuclee, Patent: W(SQUIBB BR) 1	AX482439 LOCUS LOCUS LOCUS DEFINITION Sequence 108 from Patent WO02057460. ACCESSION ACCESSION ACCESSION AX482439 VERSION AX482439.1 GI:22316984 KEYWORDS SOURCE ORGANISM Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; REFERENCE 1 AUTHORS Todaca: Graniata; Craninii; Hominidae; Homo.
	221 1198 1198 241 1258 261 1318 281 1378	201	161 1018 181	Db 838 GACTGITTTCTCACTGIACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG 897 Qy 121 LeuAlaGlyGlyPheAlaGluPheSerArgCysPheroGlyLeuCysGluGlyLysSer 140 B98 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGTGAAAGAAA

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                            LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 2
AX482478
                                                                                                                                                                                                                                                                                                                                                             SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    음 중
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                 PEATURES
                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                               TITLE
                                                                                                                   CDS
                                                                                                                                                                              Bource
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1918 GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG 1977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                            AX482478
Sequence
AX482478
                                                                                                                                                                                            Todderud,C.G., Bol,D., Finger,J., Lee,L., Nelson,T., Schieven,G., Suchard,S., Banas,D., Bassolino,D., Feder,J., Krystek,S., Mcatee,P., Mintier,G., Siemers,N., Jackson,D.G. and Ramanathan,C. Polynucleotides encoding human phosphatases Patent: WO 02057460-A 147 25-JUL-2002; SQUIBB BRISTOL MYERS CO (US)
                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                             Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                               AX482478.1 GI:22316999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IleIleGluValSer 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerAgpIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SerLysArgLeuHisSerValArgThrSerSerGerGlyThrAlaGlnArgSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTTTCCACCAGCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACCACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                /organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"
538. .2535
                                                                                                                                                                                                                                                                                                                                                                                                                                             147 from Patent
/proteIn_id="CAD44453.1"
/db_xref="G1:22317000"
/db_xref="G1:22317000"
/db_xref="REMTREMBL:CAD44453"
/translation="MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILE
/translation="MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILE
AININCSKLMKRRLQQDKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDC
                                                                                 codon_start=1
                                                                                                note="unnamed protein product"
                                                                                                                                                                                    . 5450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2532
                                                                                                                                                                                                                                                                                                                                                                                                                                                 5450 bp I
: WO02057460.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                PAT 16-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGIN
```

FLTVLLGKLEKSFNSVHLLAGGFABFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPT
RILPNLYLGCQRDVLNKELIQQNGIGYVLNASYTCFKPDFIPESHFLRVPVNDSFCEK
ILPNLDKSVDFIEKAKASNGCVLVHCLAGISRSATIATAYIKKNDMSLDBAYRFVKE
KRPTISPNFLGQLDYEKKIKNQTGASGFRKSLKLHLEKNPEPPAVSEGGQKSE
TPLSPPCADSATSERAGQRPVHPASVPSVPSVQPSLLEDSPLVQALSGLHLSADRLED
SNKLKRSFSLDIKSVSYSAMAASIHGFSSSEDALEYYKPSTTLDGTNKLCQFSPVQB
LSQTPETSPDKEBASIPKKLQTARPBDSQSKRLHSVRTSSGTDAGRSLLSPLHRSGS
VEDNYHTSFLFGISTSQOKLTKSAGALGLKGWHSDILAPQTSTPSLTSGRWFATESSHF
YSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRRQKPSDRADSRRSWHEESPFEKQFK
RRSCQMEFGESIMSENRSREELGKVGSQSSFSGSMEIIEVS"

Qy 241 LeuVal Db 1258 CTAGTG	Qy 221 ProTrpl Db 1198 CCGTGG	Qy 201 IlePro Db 1138 ATCCCC	Qy 181 GlnGln Db 1078 CAGCAG	Qy 161 ArgIle Db 1018 CGAATT	Qy 141 ThrLeu Db 958 ACTCTA	Qy 121 LeuAla Db 898 CTTGCA	Qy 101 AspCys	Qy 81 CysSerG Db 778 TGCAGTC	Qy 61 AspLys	Qy 41 HisIle	Qy 21 SerGly	Qy 1 MetAla Db 538 ATGGCC	US-10-029-345A-109 (1	Alignment scores: Pred. No.: Score: Percent Similarity: Best Local Similarit Ouery Match: DB:
HisCysLeuAlaGlyIleSt CACTGTTTAGCTGGGATCTC	LeuAspLysSerValAspPl TTGGACAAATCAGTAGATTT	GluSerHisPheLeuArgVa 	AsnGlyIleGlyTyrValLe 	LeuProAsnLeuTyrLeuG] CTTCCCAATCTTTATCTTGC	ValProThrCygIleSerG] 	GlyGlyPheAlaGluPheSe 	PheLeuThrValLeuLeuG] 	GlnLysValValValTyrAs CAGAAGGTTGTAGTTTACGI	ValLeuIleThrGluLeuIl 	SIleLeuGluAlaIleAsnIleAsnCy CATTTTGGAAGCCATTAATATCAACTG	ThrGluLysValLeuLeuI] 	HisGluMetIleGlyThrGl CATGAGATGATTGGAACTCF	1-665) x AX482478 (1	1.4e-204 L 3418.00 M 100.00% CC 1100.00% M 1100.00% I
uValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleA: 	LeunsplysSerValaspPheIleGluLysAlaLysAlaS TTGGACAATCAGTAGATTTCATTGAGAAAGCAAAAGCCT	ProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLe	GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe 	rglleieuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIl 	hrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr 	LeualaglyglyphealaglupheserargCyspheproglyLeuCysgluGlyLysSe 	AspCysPheLeuThrValleuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu 	lnlysvalvalvaltyraspGlnSerSerGlnAspvalAlaSerLeuSerSe 	LysValleuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspI 	INCYSSerLySLeuMetLySArgArgLe	erGlyThrGluLy8ValLeuLeuIleAspSerArgProPheValGluTyrAsnTI 	MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLe 	-5450)	Length: 5450 Matches: 665 Conservative: 0 Mismatches: 0 Indels: 0
leAlaTyrIleMet 260 TCGCCTACATCATG 1317	erAsnGlyCysVal 240 CCAATGGATGTGTT 1257	YsGluLysIleLeu 220 CTGAGAAAATTTTG 1197	roLysProAspPhe 200 CAAAGCCTGACTTT 1137	.snLysGluLeuIle 180 ACAAGGAGCTGATA 1077	SNILEGLYProThr 160 ACATTGGGCCAACC 1017	Y8GluGlYLY8Ser 140 GTGAAGGAAAATCC 957	.snSerValHisLeu 120 ACTCTGTTCACCTG 897	laSerLeuSerSer 100 CCTCTCTCTCTTCA 837	YSVAlASPIleASP 80 AGGTTGACATTGAT 777	rgArgLeuGlnGln 60 GAAGGTTGCAACAG 717		alAlaLeuLeuGlu 20 TGGCTCTGCTGGAA 597		

918 GATAAGGAGGAAGCCAGCATCCCCAAGAACCTGCAGACCCCCAGAGCCTTCAGACAGCCAG 1977 481 SerLysArgLeuHisSerValArgThrSerSerGlyThrAlaGlaArgSerCagCCAG 1977 481 SerLysArgLeuHisSerValArgThrSerSerGlyThrAlaGlaArgSerLeuLeu 500 978 AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGCAGCAGCCTCCAGACAGCCAG 1977 481 SerLysArgLeuHisArgSerGlySerValArgThrSerSerGlyThrAlaGlaArgSerLeuLeu 500 978 AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGC		1498 GAACCTGTCCCTGCTGCTCCAGAGGGTGGACAGACAGCCGCGAGACGGCCCCTCAGTCCACCC 1557 341 CysalaaspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal 360 1558 TGTGCCGACTCTGCTACCTCAGAGGCTAGACAGACAGACA	
Hest Local Similarity: 99.70% Wismatches: 1 Ouery Match: 99.65% Indels: 0 DB: y Match: 99.65% Indels: 0 DB: y Match: 665) x AXZ60342 (1-1998) Oy 1 MethlahisGluMetileGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu 20 1 MethlahisGluMetileGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu 20 Db 1 ATGGCCCATGAGATGATTGTAACTCCAAATTGTTACTGAGAGGTTGGTGACTGGTAAA 60 Oy 21 SerclyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer 40 Db 61 AGTGGAACGAAAAAGTTGCTAAATTGATAGCCGGCCATTTGTGGAATACATCC 120 Oy 41 HislleLeuGluAlalaleAsnIleAsnCysSerLysLeuMetLysArgArgArgAcuGlnGln 60 Db 121 CACATTTTGGAAGCCATTAATACTCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG 180 Oy 61 AspLysValLeuIleThrCluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp 80 Db 181 GACAAAGTTGTTAATTACAAGCTCATCCAAGCTTTAAGAACATAACATTCAACTGATCAACATTCAACAGTTGAAAACATAACATTCAAGCTTAAGAGTTGAAAAAAAA	WO 0173059-A 3 04-OCT-2001; Im Pharmaceuticals, Inc. (US) Location/Qualifiers 1198 1198 /organism="Homo sapiens" /mol_type="unassigned DNA" /db_xref="taxon:9606" 1.95e-204 Length: 3406.00 Matches: 99.85% Conservation	AX260342 N Sequence 3 f V AX260342 AX260342.1 Homo sapiens Homo sapiens Eukaryota; M Mammalia; Eut 1 Neyers,R.A. 38692 and 211 therefor	Oy 621 LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn 640

Ś Ъ Ş B 8 Ъ Ş DЬ

2218

561

581

2158

541

2098

청 유

2038

521

δ. 망 8 B

501

1978

Ş B 8

461

1858

1918

481

유 상 유

1738

1798

8 8 8

1678

음 성 음

중 음 성

В Ś

음 성

음 성

۲^

유

```
1261
                                                                                                                                                                                                  1201
                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                     1081
                                                                                                                                                                                                                                                                                                                                                       1021
                                                                                                 1321
                                                                                                                        441
                                                                                                                                                                         421
                                                                                                                                                                                                                                                                          381
                                                                                                                                                                                                                                                                                                                                                                             341
                                                                       461
                                                                                                                                                                                                                                                                                                                                                                                                      961
                                                                                                                                                                                                                                                                                                                                                                                                                                                        901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                               321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu
                                                             AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                              SerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn
                                                                                                                                                                                               SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                 AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAGTAAGCCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                  ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                                                                                                                                                                                                                                       TGTGCCGACTCTGCTACCTCAGAGGCAGCAGCACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                    CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                       GAACCTGTCCCTGCTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                   GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
1500
                                               1440
                                                                                                                                                                         440
                                                                                                                                                                                                                                                                                                     1140
                      500
                                                                        480
                                                                                                                          460
                                                                                                                                                                                                 1260
                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                    1200
                                                                                                                                                                                                                                                                            400
                                                                                                                                                                                                                                                                                                                              380
                                                                                                                                                                                                                                                                                                                                                       1080
                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                       1020
                                                                                                                                                                                                                                                                                                                                                                                                                               340
                                                                                                                                                                                                                                                                                                                                                                                                                                                         960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          160
```

중 유

ঠ 밁 ક 밁 8

유 밁 5 밁 Ş 밁 ક 밁 δ

음 성 음

ঠ

538

중 유

중 유

S

음 성

밁 5 В 5 망

```
Alignment Scores:
Pred. No.:
Score:
Score:
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                      RESULT 4
AX180875
LOCUS
DEFINITION
ACCESSION
VERSION
                                                                                                                                                                                                                                                           KEYWORDS
SOURCE
ORGANISM
유
                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                    र्ठ
                                                                                                                                                                                                                                                                                                                                                                                         유
                                                                                                                                                                                                                                                                                                                                                                                                                         유 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                             음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 $
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                   US-10-029-345A-109
                                                                                                                              ORIGIN
                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                           FEATURES
                                                                                                                                                                                            TITLE
JOURNAL
                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                           1921
                                                                                                                                                                                                                                                                                                                                                                                                                               1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1561
                                                                                                                                                                                                                                                                                                                                                        1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1501
                                                                                                                                                                                                                                                                                                                                                                                                             641
                                                                                                                                                                                                                                                                                                                                                                                                                                               621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           501
                                                                                                                                                                                                                                         Homo sapiens (human)
Homo sapiens
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, I
Mammalia, Eutheria, Primates, Catarrhini, Hominidae,
                                                                                                                                                                                  Mammalian protein phosphatases
Patent: WO 0146394-A 2 28-JUN-2001;
Sugen, Inc. (US)
                                                                                                                                                                                                                                                                                      AX180875
Sequence 2 from Patent 1
AX180875
AX180875.1 GI:15132703
                                                                                                                                                                                                               Plowman, G.D., Martinez, R., Whyte, D., Hill, R.J. and Flanagan, P.
GlnlysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                  AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTTTCCACCAGCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                   (1-665)
                                                                                                                                    /organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"
                                                                                                                                                                 Location/Qualifiers
1. .2732
                                                      3.02e-204
3406.00
99.85%
99.70%
99.65%
                                   ×
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                   AX180875
                                                                                                                                                                                                                                                                                                                                                        1995
                                                                                                                                                                                                                                                                                                                                                                          665
                                                                                                                                                                                                                                                                                                           2732 bp
WO0146394.
                                                    Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                    (1-2732)
                                                                                                                                                                                                                                                                                                                    DNA
                                                                                                                                                                                                                        Manning, G.,
                                                     2732
663
1
0
                                                                                                                                                                                                                                                                                                                    linear
                                                                                                                                                                                                                         Sudarsanam
                                                                                                                                                                                                                                                    Euteleostomi;
                                                                                                                                                                                                                                                                                                                    PAT 06-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                             1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1560
                  20
                                                                                                                                                                                                                                                                                                                                                                                                              660
                                                                                                                                                                                                                                                                                                                                                                                                                                                   640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    560
```

340 340 1557 360 1617 1617	
AX278461 Sequence 1 from Pa AX278461.1 GI:166 AX278461.1 GI:n66 Homo sapiens (humai Homo sapiens Bukaryota; Metazoa Mammalia; Eutheria. 1 Duecker, K.	Dy 1678 AGUSCOCCOCCOCCOCCACACACACACACACACACACACACAC

20 PG PG PG

8 뭕 Ş 망 Ś В

중 음 Ş 밁 8 밁 청 음

Ś

음 성

음 성 음

Ş Дb δ 뮻 Ś

음 성 음

성 음 성

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                         S
                                                                                                                                                                                                  문
                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                         음 성
                                                                                                                                                                                                                                                                                                                                                                                                       음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                     ઈ
                                                                밁
                                                                                       중 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-029-345A-109 (1-665) x AX278461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sdo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bource
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Scores:
                                                                                                                                                                                                                                                                                                                                           307
                                                                547
                                                                                                                                                                                                                                                                       367
 607
                              161
                                                                                                 141
                                                                                                                                   487
                                                                                                                                                                   121
                                                                                                                                                                                                     427
                                                                                                                                                                                                                                     101
                                                                                                                                                                                                                                                                                                                                                                                                             247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      127
                                                                                                                                                                                                                                                                                                       81
                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                             41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Identification of a dual specificity phosphatase: dusp-10 Patent: WO 0177340-A 1 18-OCT-2001; MERCK PATENT GmbH (DE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SerGlyThrGluLygValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                       LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                       GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                          AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                     GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                            AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                              CACATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                     CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /proceIn_id="Cad10545.1"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:16605916"
/db_xref="01:1660591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Homo sapiens"
/mol_type="unassigned DN/
/db_xref="taxon:9606"
127. .2124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="unnamed protein product"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3.53e-204
3406.00
99.85%
99.70%
99.65%
                                                                                                                                                                                                                                                                                                                                                                                                             TTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (1-3059)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3059
663
1
0
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      186
                                180
                                                                                                                                     546
                                                                                                                                                                                                       486
                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                         426
                                                                                                                                                                                                                                                                                                         100
                                                                                                                                                                                                                                                                                                                                           366
                                                                                                                                                                                                                                                                                                                                                                            80
                                                                                                                                                                                                                                                                                                                                                                                                              306
                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  40
                                                                   909
                                                                                                   160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                        δ
                                                                                 밁
                                                                                                         ঠ
                                                                                                                                          밁
                                                                                                                                                                                á
                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                     片
                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                   1567
                                                                                                                                                                                                                       1507
                                                                                                                                                                                                                                                                                         1447
                                                                                                                                                                                                                                                                                                                                                            1387
                                                                                                                                                                                                                                                                                                                                                                                                                                1327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1027
                                                                                   1627
                                                                                                                   501
                                                                                                                                                                                     481
                                                                                                                                                                                                                                                       461
                                                                                                                                                                                                                                                                                                                         441
                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                              401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                       ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                              SerSerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                   CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                     LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis 540
                                                                                                       SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                         SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu
                                                                                                                                                                                                                       GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                         AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                                                                                                                                                                                                                                                                                            TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC 1446
                                                                                                                                                                                                                                                                                                                                                                                                                              TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                    SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGTGCCGACTCTGCTACCTCAGAGGCCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCCAAAT 1086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                       AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                     520
                                                                                                                                                       1626
                     1746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                         1566
                                                                                                                                                                                                                                                                                                                                                                                                                                  1386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1026
                                                                                       1686
                                                                                                                                                                                     500
                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                            1506
                                                                                                                                                                                                                                                                                                                                                                                              440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                            460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               726
```

Alignment Scores: Pred. No.: 3.61e-204 Length: 3104 Score: 4 Matches: 663	/note="unnamed protein product" /codon start=1 /protein id="cAD34807.1" /db xref="G1:2143840" /db xref="G1:2143840" /db xref="G1:2143840" /db xref="G1:2143840" /db xref="RS1:2143840" /b xref="RS1:2143840" /b xref="RS1:2143840" /b xref="RS1:2143840" /translation="MAHEMIGTOIVTERLVALLESGTEKVLLIDSRPFVEWTSHILE AIMINGSKLMKRRLQODKVLITELIQHSAKHKVDIDGSQKVVVYDQSSQDVASLSSDC RILPULYGCQEDVLAWELMQQNGIGYVLMASNTCPESHFURVEWNDSFCEK KRPTISPHPNFLGGLLDYEKKIKNQNGAIGSVLMASNTCHDF1FDSHFURVEWNDSFCEK KRPTISPHPNFLGGLLDYEKKIKNQNGASGFKKLKLLHLEKPNEPVPAVSEGGQKSE SHKLKREAGARYPHPASHFURVEWNDSFCEK KRPTISPHPNFLGGLLDYEKKIKNQNGASGFKKLKLLHLEKPNEPVPAVSEGGQKSE SHKLKREAGARYPHPASHSVEVEVEVVEWNDSFCEK KRPTISPHPNFLGALTSVENTSVEVENTLAGALTSVENTLAGARSPVQB SHKLKREAGARYPHPASHVEVEVEWNDSTELDSFTLVALSGLHLSADRLED STUKDALSGLHLSADRLED SEVARLSGLHLSADRLED SEVARLSGLHLSADRLED SEVARLSGLESSEDLIKSADRLED SEXURTSSETLAGASTSQOHLTKSAGIGLKGWHSDILAGADSRRSWHEESDFEKGFK VEDNYHTSELFGLTSTSQOHLTKSAGIGLKGWHSDILAGADSRRSWHEESDFEKGFK YSASAIYGGSASYSAYSCSQLFTCGDVYSVRRARQKPSDRADSRRSWHEESDFEKGFK RRSCQWEFGESIMSENMSENRSREELGKVGSQSSFSGSMEIIEVS"	REFERENCE 1 AUTHORS Tang, Y.T., Liu, C., Zhou, P., Asundi, V., Zhang, J., Zhao, Q.A., Ren, F., TITLE Novel nucleic acids and polypeptides JOURNAL Patent: WO 0222660-A 115 21-WhAr-2002; FEATURES Source (US) CDS (OBS) CDS (ABORDAN INC. (US) CDS (ABORDAN INC. (US) Location/Qualifiers //OD xxef="thaxon:9606" CDS (ABORDAN INC. (US) //OD xxef="thaxon:9606"	UValSer 665 	Oy 541 SerAsplieLeualaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla 560 1747 TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCCGCTGGTATTTGCC 1806 Qy 561 ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlySerAlaSerTyrSer 580 1807 ACAGACTCCTCAACCTTCTACTCTGCCTCAGCCAGTGGCAGTGGTATTTGCC 1806 Qy 581 AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg 600 1867 GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAAGCCAGTGCCAGTTACTCT 1866 Qy 601 GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu 620 Qy 601 GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu 620 1927 CAGAAGCCAAGTGACAGACTGACTGCGGGAGAGCTGAAGGAGAGCCCTTTCAA 1986 Qy 621 LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn 1986 1987 AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAAGAGAGCCCTTTCAA 1986 Qy 641 ArgSerArgGluGluLeuGlyLysValGlySerGlnSerGlpAserGlySerMetGlu 660 2047 AGGTCACGGAAAGGTGGGAAAAGTGGAATTTGGAGAAGAGCAATGAAACC 2046 Oy 642 ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu 660 2047 AGGTCACGGAAAGGTGGGGAAAAGTGGGCAGTCAGTCTTTCGGGCAGCAGGAAA 2106
Qy 321 GluProValProAlaSerGlyFroLysSerLysLeuLysLeuLeuHisLeuGluLysBroAsn 320 [y 221 b 819 c 241 7 241 7 261 939 939 939 999	Db 579 ACTCTAGTCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC 638 Qy 161 ArgIleLeuProAsnLeuTyrLeuGlyCysglnArgAspValLeuAsnLysgluLeuIle 180 Db 639 CGAATTCTTCCCAATCTTATCTTGGCTGCCAGCGAGGAGGAGGAGGAGGAGGGGGGGG	Oy 81 CysSerGlnLysValValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100 8399 TGCAGTCAGAAGGTTGTAGTTTACGATCAAAGGTTGCCTCCTCTCTCA 458 940	0 3 6 27 46 27 2

```
RESULT 7
AX441210
LOCUS
                                                                                                                                                                                              1959
                                                                                                                                                                                                                                                                                          1839
                                                                                                                                                                                                                                                                                                                                                                                         1719
                                                                                                                                                                                                                                                                                                                                                                                                                                         1659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1119
                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                              501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
  AX441210
                                                                                                                                           LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                                                                                        ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                            CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                         GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                         AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                      SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                                                       SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerLysArgLeuHisSerValArgThrSerSerGerGlyThrAlaGlnArgSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABPLYSGluGluAlaSerIleProLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerSerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerGlyLeuHf &LeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                         IleIleGluValSer 665
                                                                                                                                                                                                                                          GCCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAACCTGTCCCTGCTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                               2153
 3496
 ď
 DNA
 linear
 PAT
 28-JUN-2002
                                                                                                                                              2078
                                                                                                                                                                                            2018
                                                                                                                                                                                                                                                                                          1898
                                                                                                                                                                                                                                                                                                                                         1838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1178
                                                                                                                      660
                                                                                                                                                                    640
                                                                                                                                                                                                                                           1958
                                                                                                                                                                                                                                                                  600
                                                                                                                                                                                                                                                                                                                 580
                                                                                                                                                                                                                                                                                                                                                                 560
                                                                                                                                                                                                                                                                                                                                                                                         1778
                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                         1718
                                                                                                                                                                                                                                                                                                                                                                                                                                                              520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1238
                                                                                                                                                                                                                    620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
ACCESSION
VERSION
KEYWORDS
                Ş
                                               닭
                                                                   á
                                                                                             밁
                                                                                                              Ś
                                                                                                                                           밁
                                                                                                                                                            5
                                                                                                                                                                                         g
                                                                                                                                                                                                               5
                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-029-345A-109 (1-665) x AX441210 (1-3496)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bource
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ŏ.
1162
                                                                                             1042
                     201
                                                                      181
                                                                                                                     161
                                                                                                                                             982
                                                                                                                                                                   141
                                                                                                                                                                                            922
                                                                                                                                                                                                                                          862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Scores:
                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                        802
                                                                                                                                                                                                                                                                                                                                         742
                                                                                                                                                                                                                                                                101
                                                                                                                                                                                                                                                                                                                                                                                        682
                                                                                                                                                                                                                                                                                                                                                                                                                                        622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      562
                                                                                                                                                                                                                                                                                                                81
                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                               41
                                                                                                                                                                                                                                                                                                                                                                                                                                                             21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Patent:
Ceptyr,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 1 from Patent WO0226997
AX441210
AX441210.1 GI:21665766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Luche,R.M. and Wei,B.
Dsp-16 dual-specificity
Patent: WO 0226997-A 1 0
Ceptyr, Inc. (US)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                             GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                         ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180
                                                                                                                                                        ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAanIleGlyProThr
                                                                                                                                                                                            CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                         LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                              CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                              ACTOTAGTOCOTACOTGCATTTOTCAGCOTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                         CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                        AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4.26e-204
3406.00
99.85%
99.70%
99.65%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             y phosphatase 04-APR-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3496
663
1
0
                                               1161
                                                                       200
                                                                                                                                              1041
                                                                                                                                                                    160
                                                                                                                                                                                            981
                                                                                                                                                                                                                   140
                                                                                                                                                                                                                                           921
                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                          861
                                                                                                                                                                                                                                                                                                                100
                                                                                                                                                                                                                                                                                                                                         108
                                                                                                                                                                                                                                                                                                                                                                80
                                                                                                                                                                                                                                                                                                                                                                                        741
                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                         681
                                                                                                                                                                                                                                                                                                                                                                                                                                                             40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
```

당 ક 유 뭥 중 유

S 밁 S 밁 ð 뮹 중 유

ঠ 밁 ક 밁 5 밁 ક 망 S 밁

중 유

S 밁 5 밁

밁

ક 밁

2541 660 2481 640 2421

```
ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer 580
                                                                                                                                                                 SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                            LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                                                                             ĊŦŦŦĊĊŔĊĊŔĠĊŔĠĊŔĠĊŔĊĊŦĊŔĊĠŔŔĠŦĊŦĠĠĊĊŦĠĠĠĊĊŦŦŔŔĠĠĠĊŦĠĠĊŔĠ
                                                                                                                                                                                                                                                                                                                    rerecaerigearegaagregagegagagacaarraceaecagerrecrirregge
                                                                                                                                                                                                                                                                                                                                                 | SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                                                                                                                                                                           AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                     SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ĠĀTĀĀĠĠĀĠĠĀĀĠĊĊĀĠĊĀŦĊĊĊĊĀĀĠĀĀĠĊŦĠĆĀĠĀĊĊĠĊĊĀĠĠĊĊŦŦĊĀĠĀĊĀĠĊĊĀĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SerSerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn 440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               recrearcadadadarderrregaaracraccadacerrecacracregaregadecaac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTCTGGÁTÁTCAÁÁTCAGTTTTCÁTATTCAGCCAGCATGGCAGCÁTCCTTÁCATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGTGGGĊŤĠĊĀĊĊŤĠŤĊĊĠĊĀĠĀĊĀĠĠĊŤĠĠĀĀĠĀĊĀĠĊĀĀŤĀĀĠĊŤĊĀĀĠĊĠŤŤĊĊŤŤĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cccaecereccaecerecaecerecereceratraeaeeaecececereceracaeecece
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ProSerValProSerValGlnProSerLeuGluAspSerProLeuValGlnAlaLeu 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rerecceác rerece a contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro|
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAĀCCTGTĊCTGCTGTCTCAGĀGGGTGGĀCĀGĀĀĀĀĢCGĀGĀGĀGĀCĞCCCCTCĀGTCCĀCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCAGCCTGGAGAAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC 1461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LysargMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTAGTGCACTGTTAGGCTGGGATCTCCCGCTCGCCACCATCGCTATCGCCTACATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ccgriggriggacaaarcagragarricarrgagaaagcaaaagccrccaarggargrgrr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                    CAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC 2241
                                                  2301
                                                                                                                                                                                  560
                                                                                                                                                                                                                             2181
                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                               520
                                                                                                                                                                                                                                                                                                                      2121
                                                                                                                                                                                                                                                                                                                                                                                                             2061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PUBMED
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 8
AB052156
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                            gene
                                                                                                                                                                                                                                                                                                                                                                                                   CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2542 ATCATTGAGGTCTCC 2556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      J. Biol.
21486429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (05-DEC-2000) Kouhei Masuda, Institute for Genetic Medicine, Division of Biochemical Oncology and Immunology; kita-ku kita15-jou nishi7-tyoume, Sapporo, Hokkaido 060-0815, Japan (B-mail:kou@imm.hokudai.ac.jp, Tel:81-11-706-5536,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 (bases 1 to 3521)
Masuda,K., Shima,H. and Kikuchi,K.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Masuda,K., Shima,H., Watanabe,M. and Kikuchi,K. MKP-7, a novel mitogen-activated protein kinase functions as a shuttle protein
J. Biol. Chem. 276 (42), 39002-39011 (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens MKP-7 mRNA
AB052156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .1489891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AB052156.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AB052156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
  GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
RRSCOMEFGESIMSENRSREELGKVGSOSSFSGSMEIIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                           /cell
                                                                                                                                                                                                                                                                                                                                                                                                                  /gene="MKP-7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/chromosome="12"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GI:13548676
                                                                                                                                                                                                                                                                                                                                                                                                                                                           _line="Jurkat"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3521 bp mRNA linear PRI 1 for MAPK phosphatase-7, complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRI 18-OCT-2001
plete cds.
```

밁 Ś 밁 Ş 밁 Ş 밁 Ş B Ş 밁 Ş В S 밁 Ş 밁 Ś 뭥 Ş 밁 δ 문 S Б Ş Дb Ş Дb S 뭥 S 밁 δ 밁 Ş

2182

2122

2062

2002

481

501

1942

461

1882

441

1822

421

1762

401

1702

1642

381

1582

1522

321

1402

281

1342

261

1282

241

1222

CCATGACATGAATTGCAACTCCAAATTGTTACTCAGACGTTCGTCCAAAGTTGCTCCAAAGTTGCTCCAAAGTTGCTCCAAAGTTGCTCCAAAGTTGCTCCAAAAAAGTGCTTCAATTGATAACCCGCCCACTTTGTGGAAAAAAGTGCTGCTAATTGATAACCCGGCCACTTTGTGGAATACAATAAAAAGTGCTGCTAATTGATAACCCGGCCACTTTTGTGGAATACAATAACAAAAAAGTGCTGCTAATTGATAACCCGGCCACTTTTGTGGAATACAATAACAAAAAGTGCTTCAAACTTCAACCTCCAAAACCTTATGAAAGCGAAAGGTTTGCGTTCAAAACCTTAATAACACTTAATATCAACTTCAACCTTCAAAGCTTCAACACTTCAACACTTTAACACTTCAACACTTCAACACTTTAACACTTCAACACTTCAACACTTTAACACTTCAACAA	IGIN ignment Scores: 4.3e-204
381 SercilyieuHisleuSerAlaAsphartleuGluAspharthanLysleuLyslargSerPhe []	Db 1464 CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGGCCAAAT 1523 Qy 321 GluproValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro 340

밁

2544

ATCATTGAGGTCTCC

```
US-10-029-345A-109 (1-665) x AX260340 (1-3544)
                                                                                                                                                                                                                                                                                                     Best I
Query
DB:
                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                             Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCUS
DEFINITION
ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 9
AX260340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                     769
                                                                                                                       709
                                                                                                                                                                        649
                                           81
                                                                                             61
                                                                                                                                                                                                                          589
                                                                                                                                                41
                                                                                                                                                                                                21
                                                     recklerckadakderrerkerrikedkrekkakaecreckakdkrerrecerererek
                   ĊĀĊĀŤŤŤŤĠĠĀĀĠĊĊĀŤŤĀĀŤĀŤĊĀĀĊŤĠĊŤĊĊĀĀĠĊŤŤĀŤĠĀĀĠĊĠĀĀĠĠŤŤĠĊĀĀĊĀĠ
                                                                                                                       AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                        SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                           Patent: WO 0173059-A 1 04-OCT-2001, Millennium Pharmaceuticals, Inc. (US)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Meyers,R.A.
3,8692 and 21117: dual specificity phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AX260340
Sequence 1 from Patent 1
AX260340
AX260340.1 GI:16509303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   therefor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                             /codon_start=1
//protein_id="CAD10218.1"
//protein_id="CAD10218.1"
//db_xref="g1:16509304"
//db_xref="g1:16509304"
//db_xref="g1:16509304"
//db_xref="REMTREMBL:CAD10218"
//db_xref="REMTREMBL:CAD10218"
//translation="MAHEMIGTQIVTERLIVALLESGTEKVLLIDSRPFVEYNTSHILE
AININCSISLMKRRLQQDKVLITELIQHSAKHKVDIDCSSQVVYVYDQSSQDVASLSSDC
RILPHLIGCQRDVLNKELMQQNGIGYVLNASNTCPKEDFIPSCHPLRVFVNDSFCEK
KRPTISPFNEVDFIEKAKASNGCVLVHCLAGISRSTIALYLHLEKPNEWPVDAVSEGQKSE
SKLFTISPFNEVFLQQLLDYEKKIKNQTGASGFKSKLKLLHLEKPNEPVPAVSEGQKSE
STLSPFNEVFLQQLLDYEKKIKNQTGASGFKSKLKLLHLEKPNEPVPAVSEGQKSE
SNCLKRSFSLDIKSVSYSASMAASLHGFSSSEDALEYYKESTTLDGTNKLCQFSPVE
SNCLKRSFSLDIKSVSYSASMASLHGFSSSEDALEYYKESTTLDGTNKLCQFSPVE
VEDNYHTSFLFGLSTSQQHLTKSAGLGLKGMHSDILAPQTSTPSLTSSWFEATESSHF
VSASAIYGGSASYSAYSCSQLFTCGDQVYSVWRRQKESDRADSRRSWHEESPFEKQPK
RRSCQMEFGESIMSENRSREELGKVGSQSSFSGSMEIIEVS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="unnamed protein product"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3544 bp
1 from Patent WO0173059.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                              4.34e-204
3406.00
99.85%
99.70%
99.65%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        _xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Chordata; Craniata; Vertebrata; Euteleostomi;
Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                  Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                           Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA
                                                                                                                                                                                                                                                                                         3544
663
1
1
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      molecules and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PAT 26-OCT-2001
      388
                                                                                                        768
                                                                                                                                60
                                                                                                                                                                                  40
                                                                                                                                                         708
                                                                                                                                                                                                            648
                                                                                                                                                                                                                                     20
                               S
                                                               밁
                                                                                     Ś
                                                                                                                밁
                                                                                                                                  Ś
                                                                                                                                                                밁
                                                                                                                                                                                   Ş
                                                                                                                                                                                                               D.
                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
             1909
                                                            1849
                                                                                                             1789
                                                                                                                                                                1729
                                                                                                                                                                                                                 1669
                                  441
                                                                                     421
                                                                                                                                                                                                                                                                   1609
                                                                                                                                                                                                                                                                                                                    1549
                                                                                                                                                                                                                                                                                                                                                                      1489
                                                                                                                                       401
                                                                                                                                                                                       381
                                                                                                                                                                                                                                                                                                                                                                                                                       1429
                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1309
                                                                                                                                                                                                                                                                                                                                            321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1129
                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            101
AAGCTATGCCAGTTCTCCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
          LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro 460
                                                             SerSerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn 440
                                                                                                                SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe 420
                                                                                                                                                                 SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe 400
                                                                                                                                                  AGTGGGCTGCÁCCTGTCCGCÁGÁCÁGÁCÁGGCTGGAÁGÁCÁGCÁÁTAÁGCTCÁÁGCGTTCCTTC
                                                                                                                                                                                                    cccadcereccadeerecadeerecereerradadeacacaceereeracadeecere
                                                                                                                                                                                                                ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu 380
                                                                                                                                                                                                                                                                      CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                                                                                                                                      GAACCTGTCCCTGCTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                      GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro 340
                                                                                                                                                                                                                                                                                                                                                        cagactiggageateaggecaaagageaaactigaagetigeagetiggagaaggecaag
                                                                                                                                                                                                                                                                                                                                                                      GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn 320
                                                                                                                                                                                                                                                                                                                                                                                                         ATATETECAAAETTEAATTTTETEGGECEAAETECTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                        LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGTGGTTGGÁCAÁÁTCAGTÁGÁTTTCÁTTGÁGAÁÁGCAAÁAGCCTCCAÁTGGÁTGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             arcccceaercrearrecrecererecereaareaceaecerrie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | IleProGluSerHisPheLeuArgValDroValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LeuAlaGlyGlyPheAlaGluPheSerArgCy8PheProGlyLeuCy8GluGlyLy8Ser 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGĂĂTTĊTTĊĊĊĂĂTĊTTTATĊTTĠĠĊTĠĊĊĀĠĊĠĀĠĂTĠŦĊĊŢĊĀĀĊĀĀĠĠĀĠĊTĠATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACTCTAGTÉCETACETGEATTTECTEAGEETTGETTACETGETTGECAACATTGGGECAACE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ĠĀĊŦĠŦŦŦĊĊĊĠĊĠĠŦĀĊŦŦĊŦĠĠĠŦĀĀĀĊŦĠĠĀĠĀĠĞĊŦŦĊĀĀĊŤĊŦĠŦŦĊĀĊĊŦĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AspCysPheLeuThrValleuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                     *CTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                1908
                                                                                                 1848
                                                                                                                                                  1788
                                                                                                                                                                                                    1728
                                                                                                                                                                                                                                                      1668
                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                        1608
                                                                                                                                                                                                                                                                                                                                                        1548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   280
                                                                                                                                                                                                                                                                                                                                                                                                           1488
                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                            1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          160
```

밁 Ş 밁 Ş 뭐 Ş В Ś 뭐 Ś

ঠ

밁

S

뭐 ક 문 S 밁

밁

```
JOURNAL
PUBMED
REFERENCE
                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                        ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 10
AF506796
                                                                         PEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                AUTHORS
TITLE
JOURNAL
                                                          Bource
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                    Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Butheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 3566)

Hoornaert, I., Marynen, P., Goris, J., Sciot, R. and Baens, M. MAPK phosphatase DUSP16/MKP-7, a candidate tumor suppressor for chromosome region 12p12-13, reduces BCR-ABL-induced transformation Oncogene 22 (49), 7728-7736 (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                          3566 bp mRNA linear PRI 30-
Homo sapiens dual specificity phosphatase 16 (DUSP16) mRNA,
complete cds.
AF506796
                                                                               Direct Submission
Submitted (26-APR-2002) Department for Human Genetics-Flanders
Interuniversity Institute for Biotechnology (VIB), Katholieke
Universiteit Leuven, Herestraat 49, Leuven B-3000, Belgium
                                                                                                                                                                                                                                                                                                                                                                                                              AF506796.1
                                                                                                                                                                   2 (bases 1 to 3566)
Hoornaert, I., Marynen, P. and Baens
                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCATTGAGGTCTCC 2583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IleIleGluValSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LysGlnPhcLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTACAGCTGCAGCTAGCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeuSerThrSerGlnGlnHi8LeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
/organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                          1. .3566
                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                GI:25573087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       665
                                                                                                                                                                     ž
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRI 30-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
Query Match:
                             S
                                                                         밁
                                                                                                           Ş
                                                                                                                                                 밁
                                                                                                                                                                             δ
                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                              문
                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                       片
                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      . BG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-029-345A-109 (1-665) x AF506796 (1-3566)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Мо.
:
                                                                         1053
                                    161
                                                                                                                                                   993
                                                                                                                                                                                      121
                                                                                                                                                                                                                           933
                                                                                                                                                                                                                                                              101
                                                                                                                                                                                                                                                                                                   873
                                                                                                                                                                                                                                                                                                                                                                           813
                                                                                                                                                                                                                                                                                                                                                                                                                                                   753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       633
                                                                                                                                                                                                                                                                                                                                      81
                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                         ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr 160
                                                                                                                                                                         LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
   CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                       ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                   CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC 1052
                                                                                                                                                                                                                           GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                             AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                       CysSerGlnLysValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                           GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                 AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                   /translation="MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILE AININCSKLMKRRLQDKVLLTELIQHSAKHKVDIDCSQCVVVVDQSSQDVASLSSDC FLTVLLGKLEKS FNSVHLLARGFFAEFSRCFFGLCEGKSTLVPTGISQPCLPVANIGBT RILFNLYLGCCRDVLMKELMQQNGIGYVLNASNTCFKDDFIFESHFLRVPVNDSFCSK ILFNLLDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAVINKRUDMSLDEAYRFVKE KRFTISPNNFLGQLLDYEKKIKNQTGASGFKSKLLLHLEKPNEPVPAVSEGGQKSE KRFTISPNNFLGQLLDYEKKIKNQTGASGFKSKLLLHLEKPNEPVPAVSEGGGKSE KRFTISPNNFLSGALGYFKVEKKIKNQTGASGFKSKLLLLHLEKPNEPVPAVSEGGGKSE KRFTSDALASTISBAAGQRYVHPASVPSVPSVQBLLEDSPLVQALSGLHLSADRLED SNKLKRSFSLDIKSVSYSASAMASLHGFFSSEDALEYYKFSTTLDGTNKLCQFSPVQE LSEQTPETSPDKEEBASIFKKLQTARPSDSQSKRLHSVBTZSGSTAQRSLLSPLHRSGS VEDNYHTSFLFGLSTSQQHLTKSAGLGLKGMHSDILAPQTSTPSLTSSMYFATESSHFYSASAIYGGSALSYSCSQLDTTGGDGYSVGRRAKFSDFRADSRRSMHESSPFEKQFK RRSCQMEFGESIMSENRSRBELGKVGSQSSFSGSMEIIEVS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /codon_start=1
/product="dual_specificity_phosphatase
/protein_id="AAN75120.1"
/db_xref="GI:25573088"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /gene="DUSP16"
/EC_number="3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /gene="DUSP16"
/note="synonym:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /EC_number="3.1.3.16"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /map="12p13-p12"
/tissue_type="bone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             chromosome="12"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4.38e-204
3406.00
99.85%
99.70%
99.65%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         _number="3.1.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MKP7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             . 48"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3566
663
1
0
                                      180
   1172
                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                             992
                                                                                                                                                                                                                                                                                                     932
                                                                                                                                                                                                                                                                                                                                        100
                                                                                                                                                                                                                                                                                                                                                                             872
                                                                                                                                                                                                                                                                                                                                                                                                                80
                                                                                                                                                                                                                                                                                                                                                                                                                                                   812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20
```

5 밁 · 용

밁

Snoor

S 밁 S 밁 ર્ В 5

유 성 유

5

유

유양

유 &

Ş 뫄 Ś 뫄 Ś 뭐 Ş 밁 5 片 Ş 밁 Ś 밁 Ś 8 S 片 Ś 밁 Ş 밁 5 뮍 δ

```
문
                                            용
                                                                  Ş
                                                                                                              Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                   US-10-029-345A-109 (1-665) x AX374994 (1-3766)
                                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                       Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 11
AX374994
LOCUS
DEFINITION
ACCESSION
                                                                                                                                                                red. No.:
                                                                                                                                                                                               DRIGIN
                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                           TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                 source
         598
                                                 538
                           21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2253
                                                                                                                                                                                                                                             Tang,Y.T., Elliott,V.S., Ramkumar,J., Yao,M.G., Burford,N., Wang,Y.E., Stewart,E.A., Gandhi,A.R., Patterson,C., Lee,E.A., Hafalia,A.J., Lu,D.A., Tribouley,C.M., Griffin,J.A.; Baughn,M.R., Yue,H., Warren,B.A., Nguyen,D.B. and Walia,N.K.

Protein phosphatases
Patent: WO 0210363-A 17 07-FEB-2002;
Incyte Genomics, Inc. (US)
Incyte Genomics, Inc. (US)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               581
                                                                                                                                                                                                                                                                                                                                       Homo sapiens (human)
Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer 40
                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 17 from Patent
AX374994
AX374994.1 GI:19169826
                                       AX374994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 2612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerTleMetSerGluAsn 640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ĊĀĠĀĀĠĊĊĀĀĠŦĠĀĊĀĠĀĠĊŦĠĀĊŦĊĠĊĠĠĊĠĠĀĠĊŦĠĠĊĀŦĠĀĀĠĀĠĀĠĊĊĊĊŦŦŦĠĀĀ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  acadadrocrocacacriciacircrocrocrocadocaroracodadocadordocadornacrocr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"
/noTe="Incyte ID No: 7480570CB1"
                                                                                                         4.72e-204
3406.00
99.85%
99.70%
99.65%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             665
                                                                                                                                                                                                                                                                                                                                                                                                                   3766 bp
WO0210363.
                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                DNA
                                                                                                     3766
663
1
1
0
0
                                                                                                                                                                                                                                                                                                                                                                                                                               linear
                                                                                                                                                                                                                                                                                                                                                                                                                             PAT 01-MAR-2002
  657
                                        597
                                                            20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       560
```

멍

341 CypAlaAppSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal 360	ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC GlnThrGlyAlaSerGlyProLysSerLysLeuLeuHisLeuGluLysProAsn	241 LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet 260 241 LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet 260 241 LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaItyrIleMet 260 241 LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaItyrIleMet 260 1258 CTAGTGCACTGTTTAGCTGGGATCTCCCGCCCCACCCATCGCTACATCAITG 1317 261 LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr 280 261 LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr 280 1318 AAGAGGATGGACATGTCTTTAGATGAAGACTTACAGATTTTGTGAAAAAAAA	GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe [98 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC 41 ThrLeuValProThrCygIleSerGlnProCygLeuProValAlaAsnIleGlyProThr	41 HislleLeuGluAlalleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln 60
VERSION BD171157.1 GI:27876969 KEYWORDS BOURCE Homo sapiens (human) SOURCE ORGANISM Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. REFERENCE AUTHORS Ohara,O., Nagase,T. and Nakajima,D. TITLE JOURNAL Novel gene and protein encoded thereby Patent: WO 02052005-A 13 04-7UI-2002; KAZUSA DNA RESEARCH INSTITUTE,OSAMU OHARA,TAKAHIRO NAGASE, DAISUKE NAKAJIMA COMMENT OS Homo sapiens (human)	B1 81 81 81 81 81 81 81 81 81 81 81 81 81	Oy 601 GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu 620	2158 TCGGA 561 ThrG1 1 2218 ACAGA 581 ALATY 581 ALATY 2278 GCCTA	Db 1978 AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCCAGAGGTCCCTTTTA 2037 Qy 501 SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly 520	

S 밁

음 중

吊

멍

밁

밁

δ

```
Score:
Percent Similarity:
Pest Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-029-345A-109 (1-665) x BD171157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alignment
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       No.:
                                 221
                                                        784
                                                                                                     724
                                                                                                                          181
                                                                                                                                                 664
                                                                                                                                                                    161
                                                                                                                                                                                             604
                                                                                                                                                                                                                 141
                                                                                                                                                                                                                                        544
                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                   484
                                                                                                                                                                                                                                                                                                        101
                                                                                                                                                                                                                                                                                                                               424
                                                                                                                                                                                                                                                                                                                                                                           364
                                                                                                                                                                                                                                                                                                                                                                                                                      304
                                                                                                                                                                                                                                                                                                                                                   81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              184
                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                           41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21
   ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                             GlnGlnAsnGlyIleGlyTyrValleuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                     WO 02052005-A/13
04-TUIL-2002
20-DEC-2001 WO 2001JP011217
22-DEC-2000 JP 00P 389742
0SAMU OHARA, TAKAHIRO NAGASE, DI
C12N15/12,C07K14/47
Novel gene and protein encoded
Key
CDS (184) . (2178)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ovel gene and protein encoded thereby
ey
Location/Qualifiers
S
Location/Qualifiers
1. 4790
/organism="Homo sapiens"
/mol type="genomic DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6.61e~204
3406.00
99.85%
99.70%
99.65%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (1-4790)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               , DAISUKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAKAJIMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0011
    903
                                             843
                                                                                                                                                            180
                                                                                                                                        723
                                                                                                                                                                                   663
                                                                                                                                                                                                          160
                                                                                                                                                                                                                               603
                                                                                                                                                                                                                                                    140
                                                                                                                                                                                                                                                                          543
                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                     483
                                                                                                                                                                                                                                                                                                                                            100
                                                                                                                                                                                                                                                                                                                                                                                      80
                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      243
                                                B 65 B 65
          В
                         Ś
                                                                                                                                            유
                                                                                                                                                                                  8 8 8
8 8 8
                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                      유성
                                                                                                                                                                                                                                                                                                                                                                 Дb
                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                  1804
          1924
                                                                                                                                              1744
                                                                                                                                                                                                                                     1624
                                                                                                                                                                                                                                                                                 1564
                                                                                                                                                                                                                                                                                                                            1504
                                                                                                                                                                                                                                                                                                                                                                         1444
                                                                                                                                                                                                                                                                                                                                                                                                                    1384
                                                                                                                                                                                                                                                                                                                                                                                                                                                               1324
                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                     461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1084
                                                                                                                                                                                                                                                                                                                                                 441
                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                         401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
decrackág rektárás a decrago rektárás a decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decrago de decr
               AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                             ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                        ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer
                                                                                       SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                            LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                                                                                                                                                                              SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAACCTGTCCCTGCTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerBroPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        600
                                             1923
                                                                                         1863
                                                                                                                                     1803
                                                                                                                                                                                1743
                                                                                                                                                            540
                                                                                                                                                                                                                             1683
                                                                                                                                                                                                                                                   500
                                                                                                                                                                                                                                                                          1623
                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                     1563
                                                                                                                                                                                                                                                                                                                                                                1503
                                                                                                                                                                                                                                                                                                                                           460
                                                                                                                                                                                                                                                                                                                                                                                     440
                                                                                                                                                                                                                                                                                                                                                                                                             1443
                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                       1383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          963
```

유 성 문

Db Ś 밁

Ş B δ 밁 Ś 밁 S 뮍 Ś 밁 δ 멍 Ś 밁 δ

1 MetAlaHisGluMetIleGlyThr	Pred. No.: 6.61e-204 Length: 4790 Score: 3406.00 Matches: 663 Percent Similarity: 99.85% Conservative: 1 Best Local Similarity: 99.70% Mismatches: 1 Query Match: 99.65% Indels: 0 DB: 665 Gaps: 0 US-10-029-345A-109 (1-665) x BD183422 (1-4790)	Homo sapiens" genomic DNA" axon:9606"	1 C C C C C C C C C C C C C C C C C C C	COMMENT PACENT: JF 2002345492-A 135 03-DEC-2002; KAZUSA DNA RESEARCH INSTITUTE COMMENT OS Homo sapiens (human) PN JP 2002345492-A/135 PD 03-DEC-2002 PD 03-DEC-2002 PF 26-FEB-2002 JP 2002049009 PF 26-FEB-2002 JP 2002049009 PI OSAMU OHARA. TAKAHIRO NAGASSE DAISUKE NAKAJIMA	M Hon Eux Oha	RESULT 13 BD183422 BD183422 BD183422 BD183422 BD183422 BD183422 DEFINITION Novel genes and proteins encoded by the genes. ACCESSION BD183422 VERSION BD183422.1 GI:31875622 VERSION BD183422.1 GI:31875622 VERSION BD183422.1 GI:31875622	Qy 641 ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu 660	Qy 601 GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu 620
\$ \$ \$ \$ \$ \$ \$	D & B &	B & B &	Qy Db	QY QY	\$ \$ \$ \$ \$ \$ \$	D Q D Q) D Q D 4	Q
361 ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu 380	321 GluProValProAlaValSerGluGlyGlnLysSerGluThrProLeuSerProPro 340	281 11eSerProAsnPheasnPheLeuclyGinLeuLeuAsplyrGinLygslySileLygslan 300		221 ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal 240	181 GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe 200	141 INTEGRAL PROTITCY BLESS TO IN PROCYBLE PROVALAL BABRIL GETYPTOTIN 160		

```
JOURNAL
MEDLINE
PUBMED
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                  REFERENCE
AUTHORS
TITLE
                                                                                                                                                                               SOURCE
ORGANISM
                                                                                                                                                                                                                              RESULT 14
AB051487
LOCUS
DEFINITION
ACCESSION
                                                                                                                                                                                                       VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                        2164
                                                                                                                                                                                                                                                                                                                                                        2104
                                                                                                                                                                                                                                                                                                                                                                                                      2044
                                                                                                                                                                                                                                                                                                                                                                                                                                                        1984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1744
                                                       Nagage_T), Kikuno,R., Hattori,A., Kondo,Y., Okumura,K. and Ohara,O. Prediction of the coding sequences of unidentified human genes.
XIX. The complete sequences of 100 new cDNA clones from brain which code for large proteins in vitro
DNA Res. 7 (6), 347-355 (2000)
                                                                                                                                                                                                                                                                                                                               199
                                                                                                                                                                                                                                                                                                                                                                                                                               621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               561
               2 (bases 1 to 4790)
Ohara,O., Nagase,T. and Kikuno,
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               461
                                                                                                                                                  Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                       Homo sapiens (human)
                                                                                                                                                                                                                AB051487.1 GI:12697944
                                                                                                                                                                                                                            4790 bp
Homo sapiens mRNA for KIAA1700 p
AB051487
                                                      1214970
                                                                                                                                                                                                                                                      AB051487
                                                                                                                                                                                                                                                                                                    ATCATTGÁGGTCTCC 2178
                                                                                                                                                                                                                                                                                                                  IleIleGluValSer
                                                                                                                                                                                                                                                                                                                                                            ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                                                                                                                                                                                                                                          LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn 640
                                                                                                                                                                                                                                                                                                                                             AGGTCACGGGAAGACTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                             AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                              GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             deeracaderideadecaderideecacirideddadaecaadireraricidideddadddd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ThrGluSerSerHispheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            regararerregececceagacererrececrisecersaceageagergrarrrege 1863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla 560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LeuSerThrSerG1nG1nHisLeuThrLysSerAlaG1yLeuG1yLeuLysG1yTrpHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ctrtccaccaecaecaecaccicaecaaecrerecreecreecrisectraecertaae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              retrecaerecarecaaciegaacerecaacaarraceaecaceerrecriticese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGGAAACCAGTCCT 1563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
(22-NOV-2000) Osamu Ohara,
                                                                                                                                                                                                                                                                                                                            665
                                                                                                                                                  Chordata;
Primates;
                                                                                                                                           Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                protein, partial cds.
 Kazusa
DNA Rsearch
                                                                                                                                                                                                                                              PRI 07-FEB-2001
                                                                                                                                                                                                                                                                                                                                             2163
                                                                                                                                                                                                                                                                                                                                                                      660
                                                                                                                                                                                                                                                                                                                                                                                             2103
                                                                                                                                                                                                                                                                                                                                                                                                                                               2043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1503
       D,
                       δ
                                                      吊
                                                                        Ś
                                                                                               뮍
                                                                                                                         Ş
                                                                                                                                                      밁
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-029-345A-109 (1-665) x AB051487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SdD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                No.:
                                                                   121
                                                                                                                                                                                101
                                                                                                                                                                                                                                        424
                                                                                                                                                                                                                                                                                                                                                     364
                                                                                                                                                                                                                                                                                                                                                                                                                                                               304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         244
                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21
crrecaegregerrrecreaerrererrerrerrecerresecrerereaaeeaaaaaree
                                LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer 140
                                                                                                          GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                          AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu 120
                                                                                                                                                                                                                    CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100
                                                                                                                                                                                                                                                                                                                                                                    AspLysValLeuIleThrGluLeuIleGlnHisSeralaLysHisLysValAspIleAsp|
                                                                                                                                                                                                                                                                                                                                 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                              CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Department of Human Gene Research; 1532-3, Yana, Kis. 292-0812, Japan (E-mail:cdnainfo@kazusa.or.jp, URLi.http://www.kazusa.or.jp/huge, Tel:81-438-52-3913 Fax:81-438-52-3914)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /codon_start=1
/product="KLAA1700 protein"
/product="KLAA1700 protein"
/product="KLAA1700 protein"
/protein_id="BAB21791.1"
/db xref="gi:12697945"
/b xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:12697945"
/db xref="gi:1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gene="KIAA1700"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /gene="KIAA1700"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOCATION/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6.61e~204
3406.00
99.85%
99.70%
99.65%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      note="Start codon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        note="vector:pBluescriptII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              clone="fj15353"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .4790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (1-4790)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         not
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           plus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4790
663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kisarazu,
603
                                                                                                          543
                                                                                                                                                                                                                       483
                                                                                                                                                                                                                                                                                                                                   423
                                                                                                                                                                                                                                                                                                                                                                                      80
                                                                                                                                                                                                                                                                                                                                                                                                                                              363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     243
```

```
1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1144
                                                                                                                                                                                                                                                                                                                                                       1384
                                                                                                                                                                                                                                                                                                                                                                                                                                    1324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1024
                                                                                                                   1564
                                                                                                                                                                                                1504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               341
                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                           401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        904
    501
                                                                                                                                                        461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        141
                                                                                                                                            AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                                                                                                                              AGCTATGCCAGTTCTCCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                     LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                                                                                                                              SerSerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn
                                                                                                                                                                                                                                                                                                                                                                           SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                        SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAACCTGTCCCTGCTCTCAGAGGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LysArqMetAspMetSerLeuAspGluAlaTyrArqPheValLysGluLysArqProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                        AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                              SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu
                                                                                                                     GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                    AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACTOTAGTCCCTACCTGCATTTCTCAGCCTTGCCTTACCTGTTGCCAACATTGGGCCAACC
                                        1683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       723
                                                                                                                   1623
                                                                                                                                                          480
                                                                                                                                                                                                1563
                                                                                                                                                                                                                                     460
                                                                                                                                                                                                                                                                            1503
                                                                                                                                                                                                                                                                                                                440
                                                                                                                                                                                                                                                                                                                                                       1443
                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                    1383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    663
  520
                                                                               500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          160
```

ર્શ 밁 Ş 밁 ð 유

밁

중 유 ક 밁 중 유

ક 밁 5 문 δ 밁

ঠ 문 ð 용 S 밁 ð 밁 중 유

밁 Ş 밁 S 밁

S

```
RESULT 15
AX713989
LOCUS
DEFINITION
ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                          KEYWORDS
SOURCE
                                                      Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         吊
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                         US-10-029-345A-109 (1-665) x AX713989 (1-2102)
                                                                                               Percent Similarity:
                                                                                                             Score:
                                                                                                                                       Alignment
                                                                                                                                                                                                                                                                                 TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                            source
                                                                                                                           No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1684 TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                        Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens (human)
Homo sapiens
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     AX713989
Sequence 673 from Pateni
AX713989
AX713989.1 GI:29888917
                                                                                                                                                                                                                                     Biotechnology (JP)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                        Isogai,T., Sugiyama,T., Otsuki,T., Wakamatsu,A., Sato,H., Ishi
Yamamoto,J.I., Isono,Y., Hio,Y., Otsuka,K., Nagai,K., Irie,R.,
Tamechika,I., Seki,N., Yoshikawa,T., Otsuka,M., Nagahari,K. an
                                                                                                                                                                                                                                                                   Patent: EP 1293569-A 673 19-MAR-2003;
Helix Research Institute (JP) ; Resea
                                                                                                                                                                                                                                                                                                             Masuho, Y
                                                                                                                                                                                                                                                                                               Full-length cDNAs
MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTTTCCACCAGCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC 1803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IleIleGluValSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT 1923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     reggatatettiggeececeagacetetacecettecetigaceageagetiggtattitigee
                                                                                                                                                                             /organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                           1. .2102
                                                      5.74e-204
3399.00
99.70%
99.55%
99.44%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    from Patent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EP1293569.
                                                                Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                      Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                đđ
                                                                                                                                                                                                                                                                    Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA
                                                     2102
662
1
2
0
                                                                                                                                                                                                                                                                    Association
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PAT 15-APR-2003
                                                                                                                                                                                                                                                                                                                                                       Ishii,S.,
                                                                                                                                                                                                                                                                                                                              and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1743
 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
```

1 380	361 ProSerValProSerValGlnProSerLeuLeuGluAppSerProLeuValGlnAlaLeu
1 360 3 1135	341 CysalaaspSeralaThrSerGluAlaalaGlyGlnArgProValHisProAlaSerVal
o 340 C 1075	321 GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro
n 320 T 1015	301 GlnThrGlyAlaSerGlyProLysSerLysLeuLeuHisLeuGluLysProAst
n 300 955	281 IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAst
T 895	261 LysargMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThi
t 260 G 835	241 LeuValhisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
1 240 T 775	221 ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
u 220 715	201 IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
e 200 655	181 GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
e 180 : G 595	161 ArgileLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
r 160 C 535	141 ThrLeuvalProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
r 140 475	121 LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSe:
ii 120 415	101 AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
r 100 A 355	81 CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSe
т 295	61 AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAs;
n 60 G 235	41 HisileLeuGluAlaTleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGl
r 40 C 175	21 SerGlyThrGluLysValLeuLeuileAspSerArgProPheValGluTyrAsnThrSe
 A 115	

er 665 CC 2050	1 IleIleGluValSe 6 ATCATTGAGGTCTC	661 2036	A 4
uLeuGlyLysValGlySerGlnSerSerPheSerGlySerMe 	1 ArgSerArgGluGluLeuGlyLy 	641 1976	D 09
*## sGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn 	\$=5	1 2	망성
GlmLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu 	1 GlnLysProSer 6 CAGAAGCCAAGT	601 185	B 8
AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArg	1 AlaTyrSerCys 6 GCCTACAGCTGC	581 1796	당 성
ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer 	1 ThrGluSerSer 6 ACAGAGTCCTCA	56: 173	g &
.IleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheA 	1 SerAspIleLeu 6 TCGGATATCTTG	54: 167	망양
LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis 	1 LeuSerThrSer 6 CTTTCCACCAGC	7 2	유 성
SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly 	6	50: 155:	장
ArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu 		481 1496	g 4
sGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln 	1 AspLy 6 GATA	46. 143	정
LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro 	σ H	7 4	g 49
SerSerSluaspalaleugluTyrTyrLysProSerThrThrLeuaspGlyThrasn 	6	42 131	B &
SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPh 	σ Η	40 125	용 성
LeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPh 	1 SerGlyLeuHis 6 AGTGGGCTGCAC	38 119	유 왕
	6 CCCAGCGTGCCC	113	망

Search completed: June 22, 2004, 02:43:11 Job time: 7843.33 secs

ş 유 B 63 B 63

GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.

```
Command line parameters:

-MODEL-frame+ p2n.model -DEV=xlh
-MODEL-frame+ p2n.model -DEV=xlh
-Q=/cgn2 1/USPTO_spool/US10029345/runat_21062004_164146_29071/app_query.fasta_1.1294
-DB=PublIshed_App_lications_NA -QFMT=fastap -SUFFIX=rnpb -MINMATCH=0.1
-LOOPEXT=0 -UNITS=bits -START=1 -END=-1 -MATRIX=blosum62
-TRAMS=human40.cdi -LIST=45 -DOCALIGN=200 -THR SCORE=pct -THR MAX=100
-THR MIN=0 -ALIGN=15 -MODE=LOCAL -OUTFMT=pto -NORM=ext -HEAPSIZE=500 -MINLEN=0
-MAXIEN=2000000000 -USER=US10029345_@CGN 1 1 333_@runat 21062004_164146_29071
-NCPU=6 -ICPU=3 -NO MMAP -LARGEQUERY -NEG_SCORES=0 -WAIT -DSPBLOCK=100
-LONGLOG -DEV TIMEOUT=120 -WARN TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5
-FGAPOP=6 -FGĀPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OM protein - nucleic search, using frame_plus_p2n model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Xgapop 10.0,
Ygapop 10.0,
Fgapop 6.0,
Delop 6.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          June 21, 2004, 21:18:06 ; Search time 819.731 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Published_Applications_NA:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3017426 seqs, 2290544650 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MAHEMIGTQIVTERLVALLE.....LGKVGSQSSFSGSMEIIEVS 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-109
                                                                                                                                                                                                                                                                                                                                                                                                                                                      /cgn2_6/ptodata/1/pubpna/US07_PUBCOMB.seq:*
/cgn2_6/ptodata/1/pubpna/PCT_NEW_PUB.seq:*
/cgn2_6/ptodata/1/pubpna/US06_NEW_PUB.seq:*
/cgn2_6/ptodata/1/pubpna/US06_PUBCOMB.seq:*
                                                                                       /cgn2_6/ptodata/1/pubpna/US09B_PUBCOMB.seq:*
/cgn2_6/ptodata/1/pubpna/US09C_PUBCOMB.seq:*
/cgn2_6/ptodata/1/pubpna/US09_NEW_PUB.seq:*
/cgn2_6/ptodata/1/pubpna/US09_NEW_PUB.seq:*
/cgn2_6/ptodata/1/pubpna/US10A_PUBCOMB.seq:*
/cgn2_6/ptodata/1/pubpna/US10A_PUBCOMB.seq:*
/cgn2_6/ptodata/1/pubpna/US10E_PUBCOMB.seq:*
/cgn2_6/ptodata/1/pubpna/US60_PUBCOMB.seq:*
                               /cgn2_6/ptodata/1/pubpna/US10_NEW_PUB.seq:*
/cgn2_6/ptodata/1/pubpna/US60_NEW_PUB.seq:*
                                                                                                                                                                                                                                                                                                      _6/ptodata/1/pubpna/USO8_NEW_PUB.seq:*
_6/ptodata/1/pubpna/USO8_PUBCOMB.seq:*
_6/ptodata/1/pubpna/USO9A_PUBCOMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                       o/prodata/1/pubpna/US07_NEW_PUB.seq:*_6/prodata/1/pubpna/PCTUS_PUBCOMB.sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Xgapext
Ygapext
Fgapext
Delext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               . . . . . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (without alignments)
3716.370 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                PUBCOMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6034852
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No. Score Query Match Length DB Ä

Description

5	44	43	42	41	40	39	38	37	36	35	34	3	32	31			8			25			22	21	20	19	18	17	티	5	4	, L	; <u>-</u>	0	9	8	7	6	ហ	4	w	N	μ.	:
453	453	461	466.5	466.5	466.5	466.5	468	468	469	469	469	469	469	471	477	477	479	480	480	480	480	480	480	480	480	1075.5	1262		1643.5	3048.5	3358.5	3 66.5	3200	3406	3406	3406	3406	3406	3406	3406	3406	3406	3406	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
13.3	13.3	13.5	Ψ	13.6	Ψ	13.6	ω	13.7	13.7	13.7	13.7	13.7	13.7	•	.4	4.	•		4.		4		•	.4	•			•	48.1		ω.	9 4	o u	9	99.6	9	99.6	9	99.6	99.6	99.6	99.6	99.6	
1238	w	3286	2104	2104	2104	1143	1977	1452	1909	1909	1830	1449	1337	2650	2649	2649	2794	2792	2390	2390	2390	2390	2390	2109	2109	2039	2476	2453	1916	3332	2200	2071	2000	4790	3766	3625	3544	3544	3496	20	w	9	1998	
9	9	10	16	16	12	15	12	12	13	12	15	12	φ	15	16	16	14	10	17	16	15	13	13	17	16	13	13	14	16	9	13	<u>.</u> .	1 6	17	13	13	16	9	9	17	13	16	9	!
US-09-902-941-803	9-736-457-6	-09-971-392-	191-803-	10-388-934-	10-152-3	-10-184-832-	10-052-	US-10-052-482-189	US-10-058-270A-129	-482-1	US-10-346-356-1	US-10-052-482-192	US-09-964-899-46	-10-184-832-	-10-159-563-	-10-133-937-4	-10-044-090-	-09-971-392-6	-10-717-597-	-10-199-221-4	-10-175-523-	-10-172-	-10-342-	-10-641-643-946	10-305-	10-072-	10-220-120-	-10-005-858-1	S-10-108-260A	09-964-277-20	-10-072-012-	US-10-230 113 320	-10-396-	10-648-593-	10-343-357-	10-425-114-	10-377-072-25	Ļ	US-09-964-277-1	-10-257-026-	-10-168-506-	US-10-377-072-	US-09-816-494-3	
Sequence 803, App	equence 803,	9	270,	654	204		188	189,	129,	191		192	46,	۲,	48	48	330,	69		4	18	698,	698,	946,		265	28	۲	e 242	20, Ar	255	Sequence 257. App	л с С	7115,	17, 4	262	e 25, App	1, Appli	۲,	e 1,	e 2,	се 27, Арр	Sequence 3, Appli	

ALIGNMENTS

RESULT 1 US-09-816-494-3

```
Alignment Scores: Pred. No.:
                                                                 US-09-816-494-3
                                                                                                                                                                                                                                                                                                        Sequence 3, Application US/09816494
Patent No. US20020034807A1
GENERAL INFORMATION:
APPLICANT: Meyers, Rachel A.
TITLE OF INVENTION: 38692 AND 21117, NOVEL DUAL SPECIFICITY
TITLE OF INVENTION: PHOSPHATASE MOLECULES AND USES THEREFOR
FILE REFERENCE: 10448-030002
                                                                                                                                                     SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 3
                                                                                                                                                                          PRIOR APPLICATION NUMBER: US 60/191,858
PRIOR FILING DATE: 2000-03-24
NUMBER OF SEQ ID NOS: 10
SOFTWARE: FRANCES
                                                                                                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/09/816,494
CURRENT FILING DATE: 2001-03-23
                                                                                    TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                LENGTH: 1998
  0
  Length:
    1998
```

į	901 CAGACTGGAGCAT	841 ATATCTCCAAACT	781 AAGAGGATGGACATGT	721 CTAGTGCACTGTTT	61 CCGTGGT		Db 541 CAGCAGAATGGGATTGGTTAAGTGCCAGCAATACCTGTCCAAAGCCTGACTT 600 Qy 201 IleProGluSerHisphelenargcaactaactcl	Db 481 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG 540 QY 181 GlnGlnAsnGlyIleGlyTyrvallenaeral.Government	421 161		301 121	241 TGCAG	81 CYSS	121 CAC	61	Db 1 ATGGCCCATGAGATGGACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCAGAA 60 21 SerGlyThyclic	US-10-029-345A-109 (1-665) x US-09-816-494-3 (1-1998) Qy	6 8 2 0
RESULT 2 US-10-377-072-27		erMetGlu 	621 LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn		581 AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg	561 1681	1621	61	501 SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPh	481 1441	461 ASPLYSGluGluAlaSerIleProLysLysLeuglnThrAlaArgProSerAspSerGln 	441 LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro	421 SerSerSerGluAspAlaLeuGluTyrTyrLysDroSerThrThrLeuAspGlyThrAsn	LyPhe 4		1081	1021	H

, 8 В

망 Ş В Ś Дb

TRAIL TRAIL TRAIL TRAIL TRAIL TO THE TRAIL TO THE TRAIL TO THE TRAIL THE TRA	Sequence 27, Application US/10377072 Publication No. US20040009501A1 GENERAL INFORMATION: APPLICANT: Millennium Pharmaceuticals Inc. APPLICANT: Logan, Thomas Joseph APPLICANT: Gluckemann, Maria A. APPLICANT: Meyers, Rachel E. APPLICANT: Williamson, Mark J. APPLICANT: Rudolph-Owen, Laura A. APPLICANT: Chun, Miyoung Chun, Miyo
5 8 5 8 5 8 5 8 5 8 5 8 5 8 5 8 5 8 5 8 5 <td>рь Оу Оу</td>	рь Оу Оу
121 Leukhaci JellyPheshaciubhsSerkrgygebhsProGyleukygGluglyJySser 140 361 CTTGCAGGTGGGTTTGCTGAGTTCCTCGTTGTTTCCCTGGCCTCGTCTGTGAAGAAATCC 141 ThLeuvalPtGThcCysllescdlnproCysleapProValAlasanilGlyProThr 160 142 ACTCTAGTCCCTACTGCATTCTCAGCTTTCCAGCCTTGCTAACAACATTGGCCAACACATTGGCCAACACATTGGCCAACACATTGGCCAACACATTGGCCAACACATTGGCCAACACATTGGCCAACACATTGGCCAACACATTGGCCAACACATTGGCCAACACATTGGCCAACACATTGGCCAACACATTGGTTAACTGTTAACTGTTAACTGCTGCAACACACAC	

```
APPLICANT: PLANAGAN, PETER
ITILE OF INVENTION: MAMMALIAN PROTEIN PHOSPHATASES
FILE REFERENCE: 038602/1351
CURRENT APPLICATION NUMBER: US/10/168,506
PRIOR APPLICATION NUMBER: PCT/US00/34736
PRIOR APPLICATION NUMBER: PCT/US00/34736
PRIOR FILING DATE: 2000-12-21
PRIOR FILING DATE: 2000-12-21
SOFTWARE: Patentin Ver. 2.1
SOFTWARE: Patentin Ver. 2.1
LENGTH: 2732
                                                                                                                                                                           Sequence 2, Application US/10168506
Publication No. US20040053229A1
GENERAL INFORMATION:
APPLICANT: PLOWMAN, GREGORY D.
APPLICANT: MARTINEZ, RICARDO
APPLICANT: MAYTE, DAVID
APPLICANT: MHYTE, DAVID
APPLICANT: MANNING, GERARD
APPLICANT: SUDARSANAM, SUCHA
APPLICANT: HILL, RON
APPLICANT: HILL, RON
                                                                                                                                                                                                                                                                                                                                                                                  ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu 660
                                                                                                                                                                                                                                                                                                                                                                                                                                  chdaadcchadreachdachdachcdchddadchddadchddadadcchchhrigaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ĠĊĊŦŔĊŔĠĊŤĠĊŔĠĊĊŔĠĊŤĠĊĊĊŔĊŦŦĠĊĠĠŔĠŔĊĊŔŔĠŦĊŦŔŤŦĊŤĠŦĠĊĠĊŔĠĠĊĠĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACAGAGTCCTCACACTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT 1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SerAspI1eLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ctrirccaccaeccaecaecaccrcaceaaercreecreeccreeccrraaeecrraeecac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly 520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a A G C T A T G C C A G T T C T C C C C T G T T C A G G A A C T A T C G G A G C T C C C G A A A C C A G T C C T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                   1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1380
                                         Ş
                                                                        밁
                                                                                                Ś
                                                                                                                        밁
                                                                                                                                                δÃ
                                                                                                                                                                              밁
                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                 뭐
                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                             뮹
                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-029-345A-109 (1-665) x US-10-168-506-2 (1-2732)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; ORGANISM: Homo US-10-168-506-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Alignment Scores:
                                                                      1318
                                                                                                                          1258
                                                                                                                                                                             1198
                                                                                                                                                                                                                                1138
                                            281
                                                                                                                                                                                                                                                                                                                                      1018
                                                                                                                                                                                                      221
                                                                                                                                                                                                                                                                                                                                                                161
                                                                                                                                                                                                                                                                                                                                                                                        958
                                                                                                                                                                                                                                                                                                                                                                                                                141
                                                                                                                                                                                                                                                                                                                                                                                                                                           898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                81 CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            538
    41
                                                       LysargmetAspmetSerLeuaspGlualaTyrargPheValLysGluLysArgProThr 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21
                                                                                                          ctadrácacrátritadoridadaror cocacrécació accarecatratros contacarearos
                                                                                                                           LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet 260
                                                                                                                                                             ccereeriegacaaarcaeraearricarreaeaaaecaaaaeccrccaareearererere
                                                                                                                                                                             ProTrpLeuAspLysSerValAspPhelleGluLysAlaLysAlaSerAsnGlyCysVal 240
                                                                                                                                                                                                                ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                   ĊĀĠĊĀĠĀĀTĠĠĠĀŦŦĠĠŦŦĀŦĠŦĠŦŦĀĀĀŦĠĊĊĀĠĊĀĀŦĀĊĊŦĠŦĊĊĀĀĀĠĊĊŦĠĀĊŢŦŦ
                                                                                                                                                                                                                                                                                                                     deaaridrickeaardritardritegereckaedaardrickicaacaadaactgare
                                                                                                                                                                                                                                                                                                                                      ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180
                                                                                                                                                                                                                                                                                                                                                                                        ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr 160
                                                                                                                                                                                                                                                                                                                                                                       ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                             CTTGCAGGTGGGTTTGCTGAGTTCTCTCGCTGTTTTCCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                           LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AspCysPheLeuThrValLeuLeuGlyLySLeuGluLySSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 recaercagaaegrieraerriacearcaaaecreccaaearerrecerererererea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GÁCAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | HislleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
3406.00
99.85%
99.70%
99.65%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                             300
                                                        1377
                                                                                                           1317
                                                                                                                                                              1257
                                                                                                                                                                                                                  1197
                                                                                                                                                                                                                                                                                                                        1077
                                                                                                                                                                                                                                                                     1137
                                                                                                                                                                                                                                                                                             200
                                                                                                                                                                                                                                                                                                                                                                                                                              957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              597
```

RESULT 3 US-10-168-506-2

HILL, RON FLANAGAN, PETER

Š 밁 Ś 밁 Ş 밁 Ş 밁 δ 뮍 S 맑 Ś 밁 Ş В Ś 밁 δ В Ś 뮍 Ś

661

ATCATTGAGGTCTCC 1995 IleIleGluValSer 1921

1861

621

641

1801

601

1681

1501

1441

1381 481

```
2158
                                                                                                                                                                                                                                                                                                                                                                               2098
                                                                                                                                                                                                                                                                                                                                                                                                                                         2038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1858
                                                                                                                                             2338
                                                                                                                                                                                                     2278
                                                                                                                                                                                                                                                             2218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          341
                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                            521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
661
IleIleGluValSer 665
                                            ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                     LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                               GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                      AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                         ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer
                                                                                                                                                                                                                                                                                                                                    SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                                                              LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACCACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                        SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerLy8ArgLeuH1sSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SerSerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn
                            AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                   GCCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                     TCGGATATCTTGGCCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                               CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                            2517
                                                                                      2457
                                                                                                                                             2397
                                                                                                                                                                                                                                                                                                                                                                               2157
                                                                                                                                                                                                                                                                                                                                                                                                                                         2097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1497
                                                        660
                                                                                                                640
                                                                                                                                                                          620
                                                                                                                                                                                                     2337
                                                                                                                                                                                                                                600
                                                                                                                                                                                                                                                             2277
                                                                                                                                                                                                                                                                                          580
                                                                                                                                                                                                                                                                                                                     2217
                                                                                                                                                                                                                                                                                                                                                  560
                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1, Application US/10257026

; Deublication No. US20040086859A1

; GENERAL INFORMATION:

; APPLICANT: Merck Patent GmbH

; TITLE OF INVENTION: New dual specificity phosphatase

; FILE REFERENCE: DUSP10KDMS

; CURRENT APPLICATION NUMBER: US/10/257,026

; CURRENT FILING DATE: 2003-11-07

; NUMBER OF SEQ ID NOS: 3

; SOFTMARE: Patentin Ver. 2.1

; SEQ ID NO 1

; SEQ ID NO 1
밁
                     ঠ
                                                        밁
                                                                                 δ
                                                                                                                밁
                                                                                                                                     δ
                                                                                                                                                                      밁
                                                                                                                                                                                                δ
                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                              ঠ
                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                            문
                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment Scores:
Pred. No.:
Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-029-345A-109 (1-665) x US-10-257-026-1 (1-3059)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-257-026-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-257-026-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Homo sapiens FEATURE: NAME/KEY: CDS LOCATION: (127)..(2121)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 3059
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2518
                                                                                                                 547
                                                                                                                                           141
                                                                                                                                                                          487
                                                                                                                                                                                                     121
                                                                                                                                                                                                                                427
                                                                                                                                                                                                                                                             101
                                                                                                                                                                                                                                                                                        367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     187
 667
                         181
                                                        607
                                                                                                                                                                                                                                                                                                                                                  307
                                                                                                                                                                                                                                                                                                                                                                                                            247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               127
                                                                                   161
                                                                                                                                                                                                                                                                                                                     81
                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                         41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCATTGAGGTCTCC
 GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                      HisīleLeuGluAlaīleAsnīleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                 AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                           CysSerGlnLysValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                    GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                    AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                             CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                  GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                          (2121)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
3406.00
99.85%
99.70%
99.65%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0044
```

8 8 8 8 8

밁

8 8 8 8 8 8 8 8 8

밁

200 666 180 909 160 546 140 486 120 426 100 366 80 306 60 246 40 186 20 5

음 성 음 성

중 음

음 중 음

밁

중 유

중 유

유 성

727 201

성 유 성 유

301 967 281 907 Ş 뫄 8 밁 δ

261 847

241 787

```
rerecaerisca de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la recepto de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor del receptor de la receptor de la receptor de la receptor de la receptor del receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor de la receptor della receptor della receptor de la receptor della receptor della receptor de la receptor della receptor della receptor della receptor della receptor della receptor della receptor della recep
                                                                                                                                                                                                                                                                                                                                                                                                          AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGCTATGCCAGTTCTCCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    recrearcagaagargerriggaaracracaaacerrecaeraergigargggaeceaae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A GTGGG CTGCA CCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rerecceác rerecei a contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ĠĀĀĊĊĦĠĦĊĊĊĦĠĊĦĠĦĊĦĊĀĠĀĠĠĠŦĠĠĀĊĀĠĀĀĀĀĠĊĠĀĠĀĊĠĊĊĊĦĊĀĠĦĊĊĀĊĊĊ 1146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ctradrideactrotrinaderidodarterecedectedecacearederiatedectraceareare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1746
                                                                                                                                                                                                                                                                                          1686
                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                          1626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1026
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         . 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 5
US-09-964-277-1
Sequence 1, Application US/09964277
Patent No. US20020137170A1
GENERAL INFORMATION:
APPLICANT: Luche, Ralf M.
FILLE REFERENCE: 200125,434
CURRENT APPLICATION NUMBER: US/09/964,277
CURRENT FILING DATE: 2001-09-25
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSEQ for Windows Version 4.0
FENGTH: 3496
TYPE: DNA
COGANISM: Homo sapiens
                                         뮍
                                                                                S
                                                                                                                                                   B
                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-109 (1-665) x US-09-964-277-1 (1-3496)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뭥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . No.:
                                                                                                                                                      742
                                                                                                                                                                                                                                                                      682
                                                                                                                                                                                                                                                                                                                                                                                             622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                562
                                                                                      81
                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                41
                                                                                                                                                                                                                                                                                                                                                                                                                                                   21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  621
réchercagan de recent de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la cons
                                      GACAAAGTGTTAAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         561
                                                                                                                                                                                                                                      CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                          AGTGGĀĀĊGĠĀĀĀĀĀĠTĠĊTĠĊTĀĀTTĠĀTĀĠĊĊĠĠĊĊĀTŦŤGTĠĠĀĀTĀĊĀĀTĀĊĀŤĊĊ
                                                                                                                                                                                                                                                                                                                                                                                   SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             arggeceárgágárgártggaacteaaartgtráctgagagaggtrógtggetegetetggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 IleIleGluValSer (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ArgSerArgGluGluLeuGlYLysValGlySerGlnSerSerPheSerGlySerMetGlu 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGGTCACGGGAAGAGCTGGGGAAAAGTGGGCAGTCAAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ĠĊĊŦĀĊĀĠĊŦĠĊĀĠĊĊĀĠĊŦĠĊĊĊĀĊŦŦĠĊĠĠĀĠĀĊĊĀĀĠŦĊŦĀŦŦĊŦĠŦĠĊĠĊĀĠĠĊĠĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
3406.00
99.85%
99.70%
99.65%
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DUAL-SPECIFICITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
   861
                                                                                                                   801
                                                                                                                                                                             80
                                                                                                                                                                                                                                         741
                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                             681
                                                                                                                                                                                                                                                                                                                                                                                                                   40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      600
```

Ş 밁 δ 뮍 Ş 밁 Ś DЪ Ś 밁 Ś 밁 Ś 밁 Ś 망 Ś Ъ Ś Вþ S 밁 δ В

1627

1567

481

1507

461

1447

441

1387

1327

401

421

1267

381

1207

361

1147

Query Match:	461 AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln 480	ફ
Score: Percent Similarity: Rest Local Similarity:	1882 AAGCTATGCCAGTTCTCCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT 1941	문
Alignment Scores: Pred. No.:		ð
; LOCATION: (589) US-09-816-494-1	421 SerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn 440 	유 성
: :5	401 SerLeuaspileLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe 420 	δ VQ
NUMBER OF SEQ ID NO SOFTWARE: FASCSEQ F SEQ ID NO 1 LENGTH: 3544	381 SerGlyLeuHiBLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe 400 	B 8
CURRENT APPLICATION CURRENT FILING DATE PRIOR APPLICATION N PRIOR FILING DATE:	361 ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu 380 	B 8
APPLICANT: Meyers, TITLE OF INVENTION: TITLE OF INVENTION: FILE REFERENCE: 104	341 CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal 360 	B 8
US-09-816-494-1 ; Sequence 1, Applicat ; Sequent US2002003 ; Patent NO.	321 GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro 340	문 왕
Db 2542 ATCATTGA	301 GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn 320 	유 왕
2482 661	281 IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn 300 	P Q
2422	261 LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr 280 	ት
N	241 LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet 260 	B 8
	221 ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal 240 	d dy
2242	201 IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu 220 	B 8
2182	181 GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe 200 	D Q
2122	161 ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180 	D Q
Qy 501 SerProbe	141 ThrLeuValProThrCygIleSerGlnProCygLeuProValAlaAgnIleGlyProThr 160 	B 8
2002	121 LeuAlaGlyGlyPheAlaGluPheSerArgCy8PheProGlyLeuCy8GluGlyLy8Ser 140 	B 8
1942	101 AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu 120 	B &

Alignmer Pred. No Score: Percent Best Loc Query Ma	; SEQ ; TE ; TY ; OR ; FE ; NA ; LO US-09-	,	rd (O	A 4	유 성	g Q	A 4	B 6	8 8	8 8	B 8	당 성	B &	뮹.
gnment Scores: d. No.: 3406.00 re: Similarity: 99.85% t Local Similarity: 99.70% ry Match: 99.65%	YOLD NO.1 LENGTH: 3544 TYPE: DNA ORGANISM: Homo sapiens FEATURE: NAME/KEY: CDS LOCATION: (589)(2583) 99-816-494-1	ENT APPLICATION NUMBER: RNT FILING DATE: 2001-0 RNT PRICKED ON THE PRICKED ON T	SSULT 6 3-09-816-494-1 3-09-816-494-1 Sequence 1, Application US/09816494 Sequence 10. US20020034807A1 GENERAL INFORMATION: APPLICANT: Meyers, Rachel A. TITLE OF INVENTION: 38692 AND 21117 TITLE OF INVENTION: PHOSPHATASE MO FILE REFERENCE: 10448-030002	661 IleIleGluValSer 66 2542 ATCATTGAGGTCTCC 25	641 ArgSerArgGluGluLeuGlyLy 	621 LysGlnPheLysArgArg	601 GlnLysProSerAspArg 2362 CAGAAGCCAAGTGACAGA	581 AlaTyrSerCy8SerGln 2302 GCCTACAGCTGCAGCCAG	561 ThrGluSerSerHisPhe 2242 ACAGAGTCCTCACACTTC	541 SeraspIleLeuAlaPro 2182 TCGGATATCTTGGCCCCC	521 LeuSerThrSerGlnGln 2122 CTTTCCACCAGCCAGCAG	501 SerProLeuHisArgSer 2062 TCTCCACTGCATCGAAGT	481 SerLysArgLeuHisSer 2002 AGCAAGCGATTGCATTCG	
Length: 3544 Matches: 663 Conservative: 1 Mismatches: 1 Indels: 0		US/09/816,494 33-23 560/191,858 14 78 Version 4.0	16494 21117, NOVEL DUAL SPECIFICITY ASE MOLECULES AND USES THEREFOR	56	euGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu 660 	### ##################################	GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu 620 	TyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg 600 	ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer 580 	rasplleLeualaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla 560 	erThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis 540 	roLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly 520 	rLybArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu 500 	

	¥	* # \$	рь Оу	\$ \$ \$	9 QV	<i>Q</i> у	4g VQ	B 8	Db Qy	B &) B &	, B &	\$ B &	d d	US-10-	DB:
1549 GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC 1608 341 CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal 360	1429 ATATCTCCAAACTTCAATTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC 1488 301 GlnThrGlyAlaSerGlyProLysSerLySLeuLysLeuHisLeuGluLysProAsn 320	OMETSETLEUASDGluAlaTyrArgPheVallysGluI		heLeuArgValProValAsnAspSerPheCysGluLysIleLeu 220	GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaGerTyrThrCysProLysPro		Dry Hry		isLeu 12	aSerLeuSerSer 1	ASPLYSVALLeuIleThrGluLeuIleGlnHisSerAlaLYSHisLysValAspIleAsp 80	HisileLeuGluAlaIleAsnIleAsnCysSexLysLeuMetLysArgArgLeuGlnGln 	SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer 40	1 MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu 20 	029-345/	9 Gaps: 0
US-10-377-072-25 US-10-377-072-25 ; Sequence 25, Application US/10377072 ; Publication No. US20040009501A1 ; GENERAL INFORMATION: ; APPLICANT: Millennium Pharmaceuticals Inc.	O'11 ATGISETATGGIUGIULEUGIYLYSVAIGIYSETGINSETSETPHESETGIYSETMETGIU 660 Db 2509 AGGTCACGGGAAGAGCTGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 2568 QY 661 IleIleGluValSer 665 Db 2569 ATCATTGAGGTCTCC 2583	621 Ly 2449 AA	Db 2329 GCCTACAGCTGCAGCCAGCCAGCTGCGGAAGGCCAAGTCTATTCTGTGCGCAGGCGG 2388 Qy 601 GlnLysProSerAspArgAlaAspSerArgArgArgArgArgAcgLu 620 Db 2389 CAGAAACCTGCAGCTGCCAGCTGCCGAGTCTATTCTGTGCGCAGGCGG 2388	2269	541 SeräspileleuhlagcaGCACCTCACGAAGTCTGCTGGCCTGGGCCTTTAAGGCT[] [] [] [] [] [] [] [] [] [] [] [] [] [501	481		Qy 441 LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro 460 Db 1909 AAGCTATGCCAGTTCTCCCTCTTTTTTTTTTTTTTTTTT	Qy 421 SerSerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsm 440	Oy 401 SerLeuAsplleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe 420	QY 381 SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe 400	Qy 361 ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu 380	Db 1609 TGTGCCGACTCTGCTTACCTCAGAGGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGG	

, Qy

8 8 8 B

Ş D, Ś 皮 5 g Ş ДЪ Ş 멍

```
APPLICANT: CHAIL, PLYONING
APPLICANT: TSAI, FONG-YING
TITLE OF INVENTION: NOVEL 25869, 25934, 26335, 50365, 21117,
TITLE OF INVENTION: 38692, 46508, 16816, 16839, 49937, 49931 AND 49933 MOLECULES
TITLE OF INVENTION: AND USES THEREFOR
FILE REFERENCE: MPIO3-0180NNIM
CURRENT APPLICATION NUMBER: US/10/377,072
CURRENT APPLICATION NUMBER: US 09/10/377,072
FRIOR APPLICATION NUMBER: US 09/895,860
PRIOR FILING DATE: 2001-06-29
PRIOR APPLICATION NUMBER: US 60/215,370
PRIOR APPLICATION NUMBER: US 09/723,806
PRIOR FILING DATE: 2000-06-29
PRIOR APPLICATION NUMBER: US 09/723,806
PRIOR FILING DATE: 2000-03-07
PRIOR APPLICATION NUMBER: US 09/723,806
PRIOR FILING DATE: 2000-03-07
PRIOR APPLICATION NUMBER: US 09/843,297
PRIOR APPLICATION NUMBER: US 09/843,297
PRIOR APPLICATION NUMBER: US 09/843,297
PRIOR APPLICATION NUMBER: US 09/843,297
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR FILING DATE: 2000-03-05
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR APPLICATION NUMBER: US 09/861,801
PRIOR APPLICATION NUMBER: US 09/861,494
PRIOR FILING DATE: 2001-03-23
PRIOR PILING DATE: 2001-03-22
PRIOR FILING DATE: 2001-03-23
PRIOR APPLICATION NUMBER: US 09/815,419
PRIOR FILING DATE: 2001-03-22
PRIOR FILING DATE: 2001-03-22
PRIOR FILING DATE: 2001-03-22
PRIOR FILING DATE: 2001-03-22
PRIOR FILING DATE: 2001-03-22
PRIOR FILING DATE: 2001-03-22
PRIOR FILING DATE: 2001-03-22
                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                             S
                                                                                                                                        ક
                                                                                                                                                                           밁
                                                                                                                                                                                                                    ঠ
                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; NAME/KEY: CDS
; LOCATION: (589)
US-10-377-072-25
                                      밁
                                                                       ঠ
                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                   US-10-029-345A-109 (1-665) x US-10-377-072-25 (1-3544)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: FastSEQ
SEQ ID NO 25
LENGTH: 3544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA
ORGANISM: Homo S
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Remaining Prior Application data removed - NUMBER OF SEQ ID NOS: 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Мо.:
                                      769
                                                                                                               709
                                                                                                                                                                                       649
                                                                                                                                                                                                                                                                685
                                                                                                                                                    41
                                                                                                                                                                                                                         21
   18
                                                                         61
 CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                        GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                           AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                    H18IleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                          SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                               MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                               CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                              ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Curtis, Rory ...
Thomas Joseph
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Chun, Miyoung
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Meyers, Rachel E.
Williamson, Mark J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rudolph-Owen,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             for Windows Version
                                                                                                                                                                                                                                                                                                                                                                        0
3406.00
99.85%
99.70%
99.65%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Laura A.
                                                                                                                                                                                                                                                                                                                                                                    Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              See File Wrapper or
                                                                                                                                                                                                                                                                                                                                                                          0041
                                      828
                                                                           80
                                                                                                                 768
                                                                                                                                                  60
                                                                                                                                                                                                                         40
                                                                                                                                                                                                                                                              648
                                                                                                                                                                                       708
                                                                                                                                                                                                                                                                                               20
                                                       밁
                                                                                        Ś
                                                                                                                                 밁
                                                                                                                                                            5
                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1009
                                                         1849
                                                                                                                                 1789
                                                                                                                                                                                                        1729
                                                                                                                                                                                                                                                                               1669
                                                                                                                                                                                                                                                                                                                                                       1609
                                                                                                                                                                                                                                                                                                                                                                                                                                1549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1069
                       441
                                                                                            421
                                                                                                                                                                   401
                                                                                                                                                                                                                                           381
                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                         341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               101
LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                   GluProValProAlaValSerGluGlyGlyGlnLy8SerGluThrProLeuSerProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerSerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn
                                                                                                                                                                                                                                                                                                   ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu 380
                                                                                                                                                                                                                                                                                                                                                                          CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                                                GAACCTGTCCCTGCTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC 1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ProTrpLeuAspLysSerValAspPheIleGlüLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACTOTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                         TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC 1908
                                                                                                                                   TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCATCCTTACATGGCTTC 1848
                                                                                                                                                          SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe 420
                                                                                                                                                                                                                               SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe 400
                                                                                                                                                                                                                                                                               CCCAGCGTGCCAGCGTGCAGCCGTTGGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                         TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGACTGGAGCATCAGGGCCAAAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGAATTAAGAAC 1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTAGTGCACTGTTTAGCTGGGGATCTCCCGCTCCGCCACCATCGCCTATCGCCTACATCATG 1368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                        AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                440
                                                                                                                                                                                                          1788
                                                                                                                                                                                                                                                                                                                                                                                           . 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       140
                                                                                                                                                                                                                                                                                                                                                         1668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     888
                                                                                                                                                                                                                                                                               1728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            948
```

Ş Б

```
Sequence 2634, Application US/10425114

Publication No. US20040034888A1

GENERAL INFORMATION:
APPLICANT: Liu, Jingdong
APPLICANT: Liu, Jingdong
APPLICANT: Kovalic, David K.
APPLICANT: Screen, Steven E
APPLICANT: Tabaska, Jack E
APPLICANT: Tabaska, Jack E
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
FILE REFERENCE: 38-21(5313)8
CURRENT APPLICATION NUMBER: US/10/425,114
NUMBER OF SEQ ID NOS: 73128
LENGTH: 3625
Type: Num
                                                                             Alignment Scores: Pred. No.:
                                                                                                                                        ; OTHER INFORMATION: Clone US-10-425-114-26234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 8
US-10-425-114-26234
                                                                                                                                                                                            TYPE: DNA
ORGANISM: Homo sapiens
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCATTGAGGTCTCC 2583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IleIleGluValSer 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGGTCACGGGAAGAGCTCGGGAAAGTGGGCAGTCAGTCTAGCTTTTCCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cada a decea a de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada de cada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ĠĊĊŦĀĊĀĠĊŦĠĊĀĠĊĊĀĠĊŦĠĊĊĊĀĊŦŦĠĊĠĠĀĠĀĊĊĀĀĠŦĊŦĀŦŦĊŢĠŦĠĊĠĊĀĠĠĊĠĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               reddatatetredeceeccadacereraceeerredeceerdaceadeaderddratritedee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ĊŦŦŦĊĊĀĠĊĀĠĊĀĠĊĀĠĊĀĊĊŦĊĀĊĠĀĀĠŦĊŦĠĠĊĊŤĠĠĠĊĊŤŦĀĀĠĠĠĊŤĠĠĊĀĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rerechergeáregahagragagagegagagagharragagagachaerrechagarricerrregag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A G C A A G C G A T T C G G T C A G A A C C A G C A G T G G C A C C G C C C A G A G T T T T T A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GATAAGGAGGAAGCCAGCATCCCCCAAGAAGCTGCAGACCCCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                Ħ.
                                                                                                                                                LIB4119-028-H6_FLI
                                                             Length:
                                                        3625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2328
                                                                                                                                                                                                                                                                                                                                                                                                        With
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 . 2088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                  밁
                                                                                                                         Ş
                                                                                                                                                                          밁
                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         БР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뭥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score:
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ДЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-029-345A-109 (1-665) x US-10-425-114-26234 (1-3625)
                                                                                                                                                                          1532
                                                                                                                                                                                                                                                                       1472
                                                                                                                                                                                                                                                                                                                                                                    1412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1352
                                 321
                                                                                                                           301
                                                                                                                                                                                                                        281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1292
                                                                                                                                                                                                                                                                                                                   261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1172
                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          101 AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           692
GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro
                                                                                41
                                                                                                                                              ATATETECAAAETTETETEGGECEAAETECTGGACTATGAGAAGAAGATTAAGAAE
                                                                                                                                                                                                                                           LysargMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr 280
                                                                                                                                                                                                                                                                                                                                                                 LeuValHisCYsLeuAlaGlyIleSerArgSerAlaThrIleAlaTleAlaTyrIleMet 260
                                                                                                                                                                                                                                                                                                                                     cragrecacrerragecresearcreces ereces concentrates contrates contrates 1471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21
                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               arccccaagrerearirecrisegrisisecrisisaardacageririsisadaaaarririg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu 220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cadeadairegearregraherererraaarreceadeaaracerereeaaageerraerri 1291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspphe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGĂATTĊTTĊĊĊAATĊTTTATĊTTĞGĊTĞCCAĞCĞAĞATĞTČČTCAACAAĞĞAĞĞTĞATĞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ArgileLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsmIleGlyProThr 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                chrécaderaderriderealerreredritarierreceredecererenale
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ĠĀĊĪĠŦĪŦĒĊĒĊĀĊĪĠĪĀĊĪŦĊĪĠĠĠĪĀĀĀĊĪĠĠĀĠĀĀĠĀĠĊŤĊĀĀĊĪĊĪĠĪŦĊĀĊĊĪĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ĊĀĊĀTŦŦŦĠĠĀĀĠĊĊĀŦŦĀĀŦĀŦĊĀĀĊŦĠĊŦĊĆĀĀĠĊŦŦĀŦĠĀĀĠĊĠĀĀĠĠŦŦĠĊĀĀĊĀĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HislleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            at Geccat ga ga tradition actica a attrot fra ct ga ga ga tradition for ct ga a a tradition at the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3406.00
99.85%
99.70%
99.65%
13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            663
1
0
                                                                                                                                                1591
                                                                                                                                                                                                                                             1531
                                                                                                                                                                                            300
                                                      1651
                                                                                                                                                                                                                                                                                                                                                                                                                                     1411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              751
```

Ş 밁 Ş 밁 Ś 밁 Ś В Ś В δ 밁 Ş 밁 5 DЬ S 밁 Ś 멍

3

```
유
                                                                                                                                                                  밁
                                                                                                                                                                                              S
                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                              ঠ
                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                           중 유
                                                                                                                                                                                                                                                                                                                                                                                           ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                중 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
RESULT 9
US-10-343-357-17
                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                     2372
                                                                                                                                                                                                                                                                                                                                                                                                                                     2312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2252
                                                2672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1652
                                                                                                                                                                                                                                                                                                                                                                                                     561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                    IleIleGluValSer 665
                                                                                                                                ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                            LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                                                          GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                        AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArgArg
                                                                                                                                                                                                                                                                                                                                                                     ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                        ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                     TOGGATATOTTGGCCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                       SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTTTCCACCAGCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                                      GCCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                     2431
                                                                                                                                                                                                                                                                                                                                                                                                                                     2371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1771
                                                                                                                                            660
                                                                                                                                                                            2611
                                                                                                                                                                                                        640
                                                                                                                                                                                                                                        2551
                                                                                                                                                                                                                                                                        620
                                                                                                                                                                                                                                                                                                       2491
                                                                                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                                                                                                                                     580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 17, Application US/10343357

Publication No. US20040058341A1

GENERAL INFORMATION:
APPLICANT: INCYTE GENOMICS, INC.; TANG, Y.Tom
APPLICANT: LICYTE GENOMICS, INC.; TANG, Y.Tom
APPLICANT: YAO, Monique G.; BURFORD, Neil
APPLICANT: YAO, Monique G.; STEWART, Elizabeth A.
APPLICANT: YAO, Monique A.; BURFORD, Neil
APPLICANT: LEE, BENEETINE A.; HAFALIA, April J.A.
APPLICANT: LEE, Ernestine A.; HAFALIA, April J.A.
APPLICANT: LU, Dyung Aina M.; TRIBOULEY, Catherine M.
APPLICANT: YUE, Henry; WARREN, Bridget A.
APPLICANT: YUE, Henry; WARREN, Bridget A.
APPLICANT: KEARNEY, Liam
TITLE OF INVENTION: PROTEIN PHOSPHATASES
FILE REFERENCE: PI-0173 PCT
CURRENT APPLICATION NUMBER: US/10/343,357
CURRENT FILING DATE: 2003-01-28
DETICA ADDITICATION NUMBER: US/10/343,357
                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; TYPE: DNA
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: misc_feature
; OTHER INFORMATION: Incyte ID No. US20040058341A1 7480570CB1
US-10-343-357-17
                                         á
                                                                            밁
                                                                                                     S
                                                                                                                                       В
                                                                                                                                                                     5
                                                                                                                                                                                                        В
                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                      용
                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                     US-10-029-345A-109 (1-665) x US-10-343-357-17 (1-3766)
                                                                                                                                                                                                                                                                                                                                                                     B:
                                                                                                                                                                                                                                                                                                                                                                                                                                     Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: PCT/US01/23716
PRIOR FILING DATE: 2001-07-26
PRIOR PPLICATION NUMBER: US 60/221,679
PRIOR FILING DATE: 2000-07-28
PRIOR PILING DATE: 2000-08-03
PRIOR PILING DATE: 2000-08-03
PRIOR PPLICATION NUMBER: US 60/224,309
PRIOR PILING DATE: 2000-08-10
PRIOR PILING DATE: 2000-08-10
PRIOR PILING DATE: 2000-08-10
PRIOR PILING DATE: 2000-08-18
PRIOR PILING DATE: 2000-08-18
PRIOR PILING DATE: 2000-08-18
PRIOR PILING DATE: 2000-08-18
PRIOR PILING DATE: 2000-08-30
PRIOR PILING DATE: 2000-08-30
PRIOR PILING DATE: 2000-08-30
PRIOR PILING DATE: 2000-09-08
PRIOR PILING DATE: 2000-09-08
PRIOR PILING DATE: 2000-09-08
PRIOR PILING DATE: 2000-09-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQ ID NOS: 20
SOFTWARE: PERL Program
SEQ ID NO 17
LENGTH: 3766
                                                                                                                                                                                                                                                                                                                                                                                                                                                    No.:
                                                                                                                                                                                                          598
                                                                                                                                                                                                                                                                         538
                                                                                                                                            658
                                             81
                                                                                                          61
                                                                                                                                                                        41
                                                                                                                                                                                                                                        21
                                                                                                                                                                                                                                                                                                      ۲
                                                                                                                                                                                                                                                                      HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                          SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                             CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                          AGTGGAACGGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                     0
3406.00
399.85%
99.70%
99.65%
                                                                                                                                                                                                                                                                                                                                                                                    Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                   Length:
Matches:
```

0011

유 성

음 성 밁

1558 TÖRĞCĞAĞTCTĞCTAĞAGGGAGCAGACAAAGGCCCGTGCATCCCGCAĞCGTG 1617 361 ProSerValgInProSerLeuLeuGluAspSerProLeuValGInAlaLeu 380 1618 CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACCAGCCGTGCATCCCGCAGCGTG 1617 381 SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerProLeuValGInAlaLeu 380 1618 CCCAGCGTGCCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC 1677 381 SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe 400 1678 AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAACAAGCAATAAGCCTCAAGCCGTTCCTTC 1737 401 SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe 420 1738 TCCTCGGATATCAAATCAGTTTCATATTCAGCCAGCAGTAGCCATCACTTACATGGCTTC 1797 421 SerSerSerGluAspAlaLeuGluTyrTyrLysProSerThrThLeuAspGlyThrAsn 440 1798 TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTCCTCACTACTCTGGATGGGAACCATCCTTTGGAATACTACAAACCTCCCACTACTCTGGATGGGAACCAACC			101 AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu 120
# APPLICANT: Bristol-Myors Squibb Company TITLE OF INVENTION: IDENTIFICATION OF GERES FOR PREDICTING ACTIVITY OF COMPOUNDS THAT TITLE OF INVENTION: INTERACT WITH AND/OR MODULATE PROTEIN TYROSINE KINASES AND/OR FILE REFERENCE DO 273 NP FILE REFERENCE DO 273 NP CURRENT FILING DATE: 2003-08-26 PRIOR PRICATION NUMBER: US/10/648,593 PRIOR PILING DATE: 2003-08-26 PRIOR FILING DATE: 2002-08-27 SOFTWARE: Patentin version 3.2 SEQ ID NO 115 CLENGTH: 4790 TYPE: DNA ORGANISM: Homo sapiens US-10-648-593-115 Alignment Scores: Pred. NO.: Score:	Db 2398 AAGCAGTTTAAACGCAGAAGGTGCCAAATGGAAATTTGGAGAGAGCATCATGTCAGAGAAC 2457 Qy 641 ArgSerArgGluGluLeuGlyLysValGlySerGlnSerTerPheSerGlySerMetGlu 660 Db 2458 AGGTCACGGAGAGCTGGGAAAGTGGAATTTGGAGAGAGCATCATGTCAGAGAAC 2457 Qy 661 IleTleGluValSer 665 Db 2518 ATCATTGAGGTCTCC 2532 RESULT 10 US-10-648-593-115 Fequence 115, Application US/10648593 FEMILICAL INFORMATION:	541 SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla 2158 TCGGATATCTTGGCCCCCCAGACCTCTACCCCTTGCCGTGACCAGAGCTGGAGCTGGTATTTTGCC 561 ThrGluSerSerHispheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer [Db 1918 GATAAGGAGGAAGCCAGCATCCCCAAGAAGACCTGCAGGACCGCCAGGCCTTCAGAACAGCCAG 1977 Qy 481 SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu 500 1978 AGCAAGCGATTGCATTCGGTCAGAACAGCAGACAGCCAGGTCAGAACAGCCAG 1977 Qy 501 SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly 520 Db 2038 TCTCCACTGCATCGAACTGGAGCCTGGAGGAACACCAGCACCAGCTTCCTTTTCGGC 2097 Qy 521 LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis 540 Db 2098 CTTTCCACCAGCCAGCCAGCAGCACCACCAGCAGCTTCACGAAGTCGCCTGGAGCTGGACCACCACCAGCTTCCACCACCACCACCACCACCACCACCACCACCACCAC

문 Ş 밁 8 В Ś В Ś В Ś 밁 Ş 뮍 Ś Ъ Ş 밁 S 밁 Ś 밁 Ś Дb S 밁 δ 뮍 Ś 뭐 δ

```
8 8 8 8 8 8 8
                                                                                                              8 8 8 8 8 8 8
                                                                                                                                                                                                     음 성
                                                                                                                                                                                                                                   8 8 8 8
                                                                                                                                                                                                                                                                                               ち 음 ち
                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                 ঠ
                                                                                                                                                                                                                                                                                                                                                                  유
                                                                                                                                                                                                                                                                                                                                                                                       음 성 음
  음 원
                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-109 (1-665) x US-10-648-593-115 (1-4790)
  1204
                                                    1084
                                                                            1024
            341
                                                               301
                                                                                                     964
                                                                                                                               904
                                                                                                                                                        844
                                                                                                                                                                                 784
                                                                                                                                                                                                                                                             604
                                                                                                                                                                                                                                                                                      544
                                                                                                                                                                                                                                                                                                               484
                                                                                                                                                                                                                                                                                                                                         424
                                                                                        281
                                                                                                                 261
                                                                                                                                                                    221
                                                                                                                                                                                             201
                                                                                                                                                                                                           724
                                                                                                                                                                                                                                    664
                                                                                                                                                                                                                                                                         141
                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                  364
                                                                                                                                                                                                                                                                                                                                                                                            304
                                                                                                                                           241
                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                               161
                                                                                                                                                                                                                                                                                                                            101
                                                                                                                                                                                                                                                                                                                                                                                                                      244
                                                                                                                                                                                                                                                                                                                                                                                                                                               184
                                                                                                                                                                                                                                                                                                                                                    81
                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                       41
                                                                                                                                                                                                                                                                                                                                                                                                                                 21
                                                                                                                              GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn
                                                                                                    ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                 GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                   HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                          CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                             ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAATTAAGAAC
                                                                                   IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                      CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                             LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                GACTGTTT
                                                                                                                                                                                                                                                                                                                       AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                           TCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
             360
                           1203
                                                    1143
                                                                            1083
                                                                                         300
                                                                                                      1023
                                                                                                                                                                    240
                                      340
                                                                320
                                                                                                                  280
                                                                                                                               963
                                                                                                                                           260
                                                                                                                                                        903
                                                                                                                                                                                  843
                                                                                                                                                                                             220
                                                                                                                                                                                                                       200
                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                              663
                                                                                                                                                                                                                                                                          160
                                                                                                                                                                                                                                                                                      603
                                                                                                                                                                                                                                                                                                   140
                                                                                                                                                                                                                                                                                                                543
                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                         483
                                                                                                                                                                                                                                                                                                                                                     100
                                                                                                                                                                                                                                                                                                                                                                  423
                                                                                                                                                                                                                                                                                                                                                                               80
                                                                                                                                                                                                                                                                                                                                                                                            363
                                                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                                                                                                                                                                                                                                              243
                                                                                                                                                                                                           783
                                                                                                                                                                                                                                    723
RESULT 11
US-10-094-749-673
VS-quence 673, Application US/10094749
Publication No. US20030219741A1
GENERAL INFORMATION:
APPLICANT: ISOGAI, TAKAO
APPLICANT: OTSUKI, TETSUJI
APPLICANT: OTSUKI, TETSUJI
                                                                  8 8 8
                                                                                                      음 성 음
                                                                                                                                             5
                                                                                                                                                                        청 유
                                                                                                                                                                                                δ
                                                                                                                                                                                                             유
왕
                                                                                                                                                                                                                                     뮍
                                                                                                                                                                                                                                                   δ.
                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                음 성
                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                              В
                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                       ঠ
                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                             유 성 유
                                                                                                                                                                                                                                                                                                                                                                                                                                    ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                          2164
                                                                                   2104
                                                                                                            2044
                                                                                                                                     1984
                                                                                                                                                              1924
                                                                                                                                                                                       1864
                                                                                                                                                                                                                 1804
                                                                                                                                                                                                                                          1744
                                                                                                                                                                                                                                                                   1684
                                                                                                                                                                                                                                                                                            1624
                                                                                                                                                                                                                                                                                                                      1564
                                                                                                                                                                                                                                                                                                                                               1504
                                                                                                                                                                                                                                                                                                                                                                         1444
                                                                                                                                                                                                                                                                                                                                                                                                  1384
                                                                                                                                                                                                                                                                                                                                                                                                                           1324
                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                     521
                                                                      661
                                                                                               641
                                                                                                                                                 601
                                                                                                                                                                          581
                                                                                                                                                                                                    561
                                                                                                                                                                                                                                                                               501
                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                 461
                                                                                                                                                                                                                                                                                                                                                           441
                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                               401
                                                                                                                                                                                                                                                                                                                                                                                                                                       381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                           LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                                         ATCATTGAGGTCTCC
                                                                                 GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                            SerLeußplleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                IleIleGluValSer
                                                                                                                                     CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                               GCCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                     AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                        ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                              ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer
                                                                                                                                                                                                                        SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                           AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                  SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCCAGCGTGCCAGCGTGCAGCCGTCGCTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                          2178
                                                                      665
                                                                                   2163
                                                                                                                                                                                                                                                                    1743
                                                                                                                                                                                                                                                                                                                                                            460
                                                                                                            2103
                                                                                                                                      2043
                                                                                                                                                               1983
                                                                                                                                                                                         1923
                                                                                                                                                                                                                  1863
                                                                                                                                                                                                                                           1803
                                                                                                                                                                                                                                                                                             1683
                                                                                                                                                                                                                                                                                                                      1623
                                                                                                                                                                                                                                                                                                                                                1563
                                                                                                                                                                                                                                                                                                                                                                          1503
                                                                                                                                                                                                                                                                                                                                                                                                                                                     1323
                                                                                               660
                                                                                                                        640
                                                                                                                                                                                                     580
                                                                                                                                                                                                                              560
                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                         500
                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                   1443
                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                         400
```

```
APPLICANT: WAKAMATSU AI
APPLICANT: SATO, HIROYUKI
APPLICANT: ISHII, SHIZUKO
APPLICANT: YAMAMOTO, JUN-ICHI
APPLICANT: HIO, YUUKO
APPLICANT: HIO, YUUKO
APPLICANT: HIO, YUUKO
APPLICANT: IRIE, KNOTARO
APPLICANT: IRIE, KNOTARO
APPLICANT: TAMECHIKA, ICHIRO
APPLICANT: SEKI, MACHIKO
APPLICANT: OTSUKA, MOTOYUKI
APPLICANT: WASHO, YASUHIKO
APPLICANT: WASHO, YASUHIKO
APPLICANT: WASHO, YASUHIKO
TITLE OF INVENTION: NOVEL FULL-LENGTH CDNA
CURRENT APPLICATION NUMBER: US/10/094,749
FRIOR APPLICATION NUMBER: US/10/094,749
PRIOR APPLICATION NUMBER: 5002-03-12
PRIOR APPLICATION NUMBER: JP 2001-328381
PRIOR FILING DATE: 2001-09-14
SEQID NO 673
SEQID NO 673
LENGTH: 2102
TYPE: DNA
GRANISM: Homo sapiens
US-10-094-749-673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-029-345A-109 (1-665) x US-10-094-749-673 (1-2102)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                      LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                       ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsmIleGlyProThr 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACTGTTTCTCACTGTACTTCTGGGTAAACTGGAGAGAGGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              recaercada a derreta de la recada de receda de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la receneración de la r
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 dacaaagretraartacadagereareeagearteagegaaacataagertgaeargar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cácarritiggaageckartaatraticaactigetechagectratigaagegaaggtrigeaacag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HisileLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ategececateadateatrogaacteaaatrottacteadacetroctecectocaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
3399.00
99.70%
99.55%
99.44%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0021
                                                                                                                            535
                                                                                                                                                                                                                                                                                                              475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20
                                                           Ś
                                                                                                                                                    밁
                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                  뭐
                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ДЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                  1496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1376
                                                                                                                                                                                                                                         501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1316
                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       776
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            656
LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                         TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACCAGCTTCCTTTTCGGC
                                                                                                                                          SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                                                                                                  AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                              GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGAGCTGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGCTATGCCAGTTCTCCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAAACCAGTCCT 1435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   récrearcadaagargerrregaaracracadacerrecaeracrergargegaceaae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerSerSluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn 440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rcrcresarateanárcas riteáratroas coascares de carecratacares critectras de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysAxgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cccadcáraccadcárácadccarcacratadadadadadadccacratadadadadacacracra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rerecceácrereción de contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ĠŔĀĊĊŦĠŦĊĊĊŦĠĊŦĠŦĊŦĊĀĠĀĠĠĠŦĠĠĀĊĀĠĀĀĀĀĠĊĠĀĠĀĊĠĊĊĊŦĊĀĠŦĊĊĀĊĊĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ĊAĠĀĊŢĠĠĀĠĊĀŢĊĀĠĠĠĊĊĀĀĀĠĀĠĊĀĀĀĊŢĊĀĀĠĊŢĠĊŢĠĊĀĊĊŢĠĠĀĠĀĀĠĊĊĀĀĀŢ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ataterecanacitecantritereseccanerectes de transadanda de transadande de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a A GA GGA T GA CAT GT CTTTTA GA T GA A GCTTA CAGA TTT GT GA A A GA A A A A A A A GA CCTA CT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LysargMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet 260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cradriccacrorradoridosarcrecesereces careacrares referencias de conservar en conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de conserva de c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ĊĊĠŦĠĠŦŦĠĠŔĊŔĂŔŦĊŔĠŦŔĠŔŦŦŦĊŔŦŦĠŔĠŔŔŔĠĊŔĸŔŔĠĊĊŦĊĊĸŔŦĠĠĸŦĠŦĠŦŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Arcecedaererearirecerecererecerereaareaceaecerriedaaareaecerere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CÁGCAGAATGGGATTGGTTATGTGTTAAATGCCÁGCAATACCTGTCCAAAGGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
         540
                                                                                                                                                                                                                                                                                1555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1495
                                                                                              1615
                                                                                                                                                                                  520
                                                                                                                                                                                                                                                                                                                                                                     500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           595
```

Score:

Ś 밁 Ş В Ś B Ś 밁 Ş 밁 Ś 片 Ś В Ş

> 121 356 101 296

236

61

81

176

41

21

BABABABBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB	RESULT 12 US-10-296-115-520 US-10-296-115-520 Sequence 520, Application US/10296115 Publication No. US20040053248A1 ; Publication No. US20040053248A1e1 Nucleic Acids and Polypeptides TITLE OF INVENTION: APPLICANT: Hyseq Inc TITLE OF INVENTION NUMBER: US/10/296,115 CURRENT APPLICATION NUMBER: US/10/296,115 CURRENT APPLICATION NUMBER: US09/488,725 PRIOR APPLICATION NUMBER: US09/488,725 PRIOR APPLICATION NUMBER: US09/552,317 PRIOR APPLICATION ONDER: US09/552,317 PRIOR FILING DATE: 2000-04-25	1616 CTTTCCACCAGCCAGC 541 SerAspleLeualat
8 8 8 8 8 8 8 8 8 8 8 8 8		2
261 LyskrgMetAspMetSerLeulAspGluAlaTyrArgPheValLysGluLyskrgproThr 280 281 [CAGCAGAATGGGATTGGTTATATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT 11eProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysI1eLeu	HislleLeuGluAlaIleAsnIleAsnCysSerLysLeuWetLysArgArgLeuG

유성

1343

441

461

1403

481

밁 S В

1283

1223

401

421

420

```
AGGTCACGGGAAGAGCTGGGGAAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu 620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            acadadrecreacacricia de reservado de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la composição de la 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ĊŦŦŦĊĊĸĊĊĸĠĊĊĸĠĊĸĠĊĸĊĊŦĊĸĊĠĸĸĠŦĊŦĠĊŦĠĠĊĊŦĠĠĠĊĊŦŦĸĸĠĠĠĊŦĠĠĊĸĊ 1642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rerecaerigeariegaagregageriggagagacaarraceaecaaceaecrrecerrregge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          dárhaddahddahdechdechrecechadahdecrechdadechdechdecerrendakchdechde
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ah de rar de ce a de rece en la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la come de la c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro|
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      récreareada de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra del recentra del recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra del recentra de la recentra del recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra del recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra del recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra de la recentra del recentra de la recentra del rece
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1282
                                                                                   Ś
                                                                                                                                                                                밁
                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-029-345A-109 (1-665) x US-10-072-012-257 (1-2071)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Remaining Prior Application data removed - See File Wrapper NUMBER OF SEQ ID NOS: 1391
SOSTWARE: PatentIn Ver. 2.1
SEQ ID NO 257
LENGTH: 2071
TYPE: DNA
ORGANISM: Homo sapiens
US-10-072-012-257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Gusev, Vladdmir Y.
APPLICANT: Gusev, Vladdmir Y.
APPLICANT: Colman, Steven D.
APPLICANT: Colman, Steven D.
APPLICANT: Colman, Steven D.
APPLICANT: Pena, Carol E. A
APPLICANT: Pena, Carol E. A
APPLICANT: Pena, Carol E. A
APPLICANT: Alsobrook II, John P.
APPLICANT: Alsobrook II, John P.
APPLICANT: Lepley, Denise M.
APPLICANT: Lepley, Denise M.
APPLICANT: Burgess, Catherine E.
FITLE OF INVENTION: Proteins and Nucleic Acids Enc.
CURRENT APPLICATION NUMBER: US/10/072,012
FRICA APPLICATION NUMBER: 60/265,102
PRIOR APPLICATION NUMBER: 60/265,512
PRIOR APPLICATION NUMBER: 60/265,513
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,319
PRIOR APPLICATION NUMBER: 60/265,395
PRIOR APPLICATION NUMBER: 60/266,395
PRIOR APPLICATION NUMBER: 60/266,406
PRIOR PILING DATE: 2001-02-05
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No.:
301
                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                   81
                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                    41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CysserGlnLysValValValTyrAspGlnSerSerGlnAspValAlaserLeuserSer
                                                                                                                ĊĀĊĀTŦŦĪĠĠĀĀĠĊĊĀŦĪĀĀŦĀTĊĀĀĊĪĠĊĪĊĊĀĀĠĊŦŦĀĪĠĀĀĠĊĠĀĀĠĠŦŢĠĊĀĀĊĀĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
3379.50
99.40%
99.25%
98.87%
13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Encoding
                             100
                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                  80
                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
```

RESULT 13

US-10-072-012-257

Sequence 257, Application US/10072012

Publication No. US20040033493A1

GENERAL INFORMATION:

APPLICANT: Tchermev, Velizar

APPLICANT: Tchermev, Velizar

APPLICANT: Spyrek, Kimberly

APPLICANT: Zerhusen, Bryan

APPLICANT: Detturajan, Meera

APPLICANT: Shimkets, Richard

APPLICANT: Li, Li

APPLICANT: Gangolli, Esha

APPLICANT: Padigaru, Muralidhara

APPLICANT: Rastelli, Luca

APPLICANT: Rastelli, Luca

APPLICANT: Gerlach, Valerie

APPLICANT: Gerlach, Valerie

Gangolli, Esha Padigaru, Muralidhara Anderson, David W. Rastelli, Luca Miller, Charles E. Gerlach, Valerie

Ś 밁 Ś 밁 Ś В Ś В Ś 밁 Ş В Ś 문 δ В S 밁 Ś 뭐 S

199

1943

1883

641

1823

601

621

1763

581

1703

1523

2003 Arcarraaccrere 2017

δ

ક

음 성 음 성

문

맑

441 : 1372 .	421 : 1312 :	401 S 1252 T	381 ; 1192 ;	361 P 1135 -	341 (321 (1021 (301 (961 (901	261 1 841 <i>i</i>	241 L 781 C	221 P 721 C	201 I 661 A	181 (161 <i>i</i> 541 (141 T 481 A	121 J 421 (101 A 361 G
LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerP 	SerSerSluaspalaLeuGluTyrTyrLysProSerThrTh	erleuaspilelysserValserTyrSe 	SerGlyLeuHisLeuSerAlaAspArgLeuGluAsj 	roSerValProSerValGlnProSerLeuLeuGluAspSerPro AGCGTACCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCG	CygAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProA	GluProValProAlaValSerGluGlyGlyGlyGlnLysSerGluThrProLeuSerProPro 	GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLy 	IleSerProAsnPheAsnPheLeuGlyGlnLeuLd	LybargmetabpmetSerLeuabpGlualaTyrArgPheValLybGluLybArg	JeuvalhisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaI 	PTOTTPLEUASPLYSSETVAlASPPheIleGluLysh 	leProGluSerHisPheLeuArgValProValAsnAs 	GinginasnglyileGlyTyrValleuasnalasv cagcagaaTgggaTTggTTTATgTGTTTAAATGCCA	ArgileLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluL 	hrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyP 	LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGly	AspCysPheLeuThrValLeuLeuGlyLysLeuGluLy
erGluGlnThrProGluThrSerPro 460 GGAGCAGACTCCCGAAACCAGTCCT 1431	roSerThrThrLeuAspGlyThrAsn 440 ctrccactactcrggatgggaccaac 1371	rAlaSerMetAlaAlaSerLeuHisGlyPhe 420 	spSerAsnLysLeuLysArgSerPhe 400 ACAGCAATAAGCTCAAGCGTTCCTTC 1251	luAspSerProLeuValGlnÄrsLeu 380 RGACAGCCCGCTGGTACAGGCGCTC 1191	InArgProvalHisPro&laSerVal 360	ysSerGluThrProLeuSerProPro 340	ysLeuLeuHisLeuGluLysProAsn 320 	nPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn 300 CTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC 960	rgPheValLysGluLysArgProThr 280 ATTTGTGAAAGAAAAAGCCTACT 900	laThrileAlaIleAlaTyrileMet 260 CACCATCGCTATCGCCTACATCATG 840	ysAlaLysAlaSerAsnGlyCysVal 240 	snAspSerPheCysGluLysIleLeu 220 	.BSerTyrThrCysProLysProAspPhe 200 	rgAspValLeuAsmLysGluLeuIle 180 :: GAGATGTCCTCAACAAGGAGCTGATG 600	euProValAlaAsmIleGlyProThr 160 ACCTGTTGCCAACATTGGGCCAACC 540	heProGlyLeuCysGluGlyLysSer 140 CCCTGGCCTCTGTGAAGGAAAATCC 480	luLysSerPheAsnSerValHisLeu 120
; APPL ; APPL ; APPL ; TITL						7	¥ & ,	S B 1	S B 8	S B 8	2 B &	O B &	S B 8	S B 7	O B 4	O	S B. S

ક 밁 ঠ 밁 Ş 밁 S 밁 δ 뭐 ş 밁 S 문 S 밁 5 밁 Ş 밁

```
APPLICANT: Spytek, Kimberly
APPLICANT: Zerhusen, Bryan
APPLICANT: Patturajan, Meera
APPLICANT: Shimkets, Richard
APPLICANT: Shimkets, Richard
APPLICANT: Li, Li
APPLICANT: Gangolli, Esha
APPLICANT: Anderson, David W.
APPLICANT: Miller, Charles E.
APPLICANT: Moleron, David W.
APPLICANT: Taupier Jr, Raymond J.
APPLICANT: Gerlach, Valerie
APPLICANT: Gousev, Vladimir Y.
APPLICANT: Colman, Steven D.
APPLICANT: Wolenc, Adam R.
APPLICANT: Furtak, Katarzyna
APPLICANT: Grosse, William M.
APPLICANT: Alsobrook II, John P.
APPLICANT: Lepley, Denise M.
APPLICANT: Lepley, Denise M.
APPLICANT: Rieger, Daniel K.
APPLICANT: Burgess, Catherine E.
TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same
                                                                                                                                                                                                                                                                                                                                                                             quence 255, Application US/10072012
blication No. US20040033493A1
NNEXAL INFORMATION:
PPLICANT: Tchernev, Velizar
PPLICANT: Spytek, Kimberly
PPLICANT: Serbusen, Bryan
PPLICANT: Patturajan, Meera
PPLICANT: Shimkets, Richard
PPLICANT: Shimkets, Richard
PPLICANT: Shimkets, Richard
PPLICANT: Shimkets, Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14
072-012-255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2032 ATCATTGAGGTCTCC 2046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IleIleGluValSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGACCCCCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer 580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerLysArgLeuHisSerValArgThrSerSerGlyThrAlaGlnArgSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACCACCATCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                500
```

```
CURRENT APPLICATION NUMBER: US/10/072,012
CURRENT FILING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: 60/265,102
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,406
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/266,406
PRIOR FILING DATE: 2001-02-02
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-08
Remaining Prior Application data removed - S
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 255
LENGTH: 2200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-029-345A-109 (1-665) x US-10-072-012-255 (1-2200)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 : LENGTH: 2200
: TYPE: DNA
: ORGANISM: Homo sapiens
US-10-072-012-255
                                                                        481
                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                     117
                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                  ncierreacciecine agerratica de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la co
                                                                                                                                                                                                                                                                                                                                                          GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTAAACGCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ĊĀĊĀŤŤŤŤĠĠĀĀĠĊĊĀŤŤĀĀŤĀŤĊĀĀĊŤĠĊŤĊĊĀĀĠĊŤŤĀŤĠĀĀĠĊĠĀĀĠĠŤŤĠĊĀĀĊĀĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | HislleLeuGluAlaIleAsmIleAsmCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MetAlaHisGluMetIleGlyThrGln1leValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
3358.50
97.65%
97.50%
98.26%
13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                        -GlyGlyPheAlaGluPheSerArgCysPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           See File Wrapper or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4 15
4 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PALM
                      540
                                                                                                    152
                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20
                                                                                                        Ş
                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뮍
                                         1561
                                                                                                                                                                                                             1501
                                                                                                                                                                                                                                                                                                                                                                                     1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1381
                                                                                                                 486
                                                                                                                                                                                                                                                                                               466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   193
                                         rederendada a central de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la cons
                                                                                                                                                                                                                                                                                                                               SerIleProLysLysLeuGlnThrAlaArgProSerAspSerGlnSerLysArgLeuHis 485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ĠĊŦŦŦĠĠŔĸŦŔĊŦŔĊŔĸĸĊĊŦŦĊĊŔĊŦŔĊŦĊŦĠĠĸŦĠĠĠŔĊĊĸŔĊĸŔĠĊŦŔŦĠĊĊŔĠŦŦĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AlaieuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsnLysLeuCysGlnPhe 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           rcagrificatatrica goca goca regoca goca recerta carego entre receita de anacar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPheSerSerSerGluAsp 425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPheSerLeuAspIleLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 erecaecercierrasases acaececercieracaes en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecercies en carecerc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a concade de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la compara de la 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerValProSerValProSer 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       descenadadelajadetron de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de descrisor de des
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsnGluProValProAla 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AATTTTĊTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGACTGGAGCATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlyIleSerArgSerAlaThrileAlaIleAlaTyrIleMetLysArgMetAspMetSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGACTTATACAGAGAAAGCAAAAGCCTCCAATGGATGTTTTAGTGCACTGTTTAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsnGlnThrGlyAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GĀCĀĠĊTTTTĠŦĠĀĠĀĀĀĀŤŤŦĪĠĊĊĠŦĠĠŦŦĠĠĀĊĀĀĀŦĊĀĠŦĀĠĀŤŤŤĊĀŤŤGGTAĄG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AspSerPheCysGluLysIleLeuProTrpLeuAspLysSerValAspPheIle-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TyrThrCysProLysProAspPheIleProGluSerHisPheLeuArgValProValAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rddaadacadcaariaadcrcaadcdrrccrrcrcrcrcdaararcaaa 1320
                                                                                                                                                               1560
                                                                                                                                                                                                                                                                                                                                   1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1440
                                                                                                                                                                                                                                                                                                                                                                                                                          465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                600
```

B δ 밁 Ś 뫄 Ś В Ş 망

Ş В Ś 밁 Ś 뮍 S

US-10-029-345A-109 (1-665) x US-09-964-277-20 (1-3332) Qy	ignment Scores: ed. No.: 8.86e-317 Notches: ore: 3048.50 Matches: rcent Similarity: 91.44\$ Conservati st Local Similarity: 91.14\$ Mismatches ery Match: 9.19\$ Gaps:	CURRENT APPLICATION NUMBER: US/09/964,277 CURRENT FILING DATE: 2001-09-25 NUMBER OF SEQ ID NOS: 22 SOFTWARE: PastSEQ for Windows Version 4.0 SEQ ID NO 20 LENGTH: 3332 TYPE: DNA CORGANISM: Homo sapiens	RESULT 15 US-09-964-277-20 US-09-964-277-20 ; Sequence 20, Application US/09964277 ; Patent No. US20020137170A1 ; GENERAL INFORMATION:	Db 1981 AGAAGCTGCCAAATGGAATTTGGAGAGAACATCATGTCAGAGAACAGGTCACGGAAGAG 2040 Qy 646 LeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGluIleIleGluValSer 665	606 ArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGluLysGlnPheLysArg	Db 1801 TTCTACTCTGCCTCAGCCATCTACGAGGCAGTGCCAGTTACTCTGCCTACAGCTGCAGC 1860 Qy 586 GlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArgGnLysbroSerAsp 605	546 ProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAlaThrGluSerSerHis	Qy 506 SerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGlyLeuSerThrSerGln 525
\$ \$ \$ \$ \$ \$ \$	DB QQ DB	Q	5 8 8 8 8	y y	, & B. &	B & B &	⊋ Db Qy	0 Qy
360 lProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLe 380	1297 CCAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCAGCTGGAGAAGCCAAA 1356 320 mGluProVallaValserGluGlyGlyGlnLysSerGluThrProLeuSerProPr 340		220 uProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVa 240	937 GCAGCAGAATGGGATTAGTTATATGTCTAAATGCCAGCAATACCTGTCCAAAGCCTGACTT 996 200 eIleProGluSerHisPheLewArgValProValAsnAspSerPheCysGluLysIleLe 220	rArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIl ::: ::	925 CTTG	ര—≽	61 AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp 80

Search c Job time	Db	g g	Q p	Qy Db	OV B 1	8 8	& B	Qy Db	Q D	Ş	음 성	D	Ş B	γQ	DЬ
h completed: June 22, 2004, 03:06:35 ime : 857.731 secs	2377 AATCATTGAGGTCTCC 2392		2257 AAAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGCATCATGTCAGAGAA 2316	7	37	77		57 40	1897 ATCTCCACTGCATCGAAGTGGGAGGACGAGGACAATTACCACACCAGCTTCCTTTTCGG 1956 520 YLeuSerThrSerGlnGlnHistenThrTvgCox3lsGlnGlnGlnHistenThrTvgCox3lsGlnGlnHistenThrTvgCox3lsGlnGlnHistenThrTvgCox3lsGlnGlnHistenThrTvgCox3lsGlnGlnHistenThrTvgCox3lsGlnGlnGlnHistenThrTvgCox3lsGlnGlnGlnHistenThrTvgCox3lsGlnGlnGlnGlnHistenThrTvgCox3lsGlnGlnGlnGlnGlnGlnGlnGlnGlnGlnGlnGlnGlnG	500 uSerProleuHisArgSerGlySerValGluAspAspTvrHisThvSerPholouphoca to	480 nSerLysArgLeuHisSerValArgThrSerSerGlyThrAlaGlnArgSerLeuLe 500	TOO CARPLYSGINGINALASETILEPTOLYSLYSLEUGINThrAlaArgProSerAspSerGl 480	17	,) , ,	1657 CTCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTGGTTGGGATGCGACGA

```
Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Command line parameters:

-MODEL=frame+ p2n.model -DEV=xlh
-Q=/cgn2 1/USPTO_spool/US10029345/runat_21062004_164145_29020/app_query.fasta_1.1294
-Q=/cgn2 1/USPTO_spool/US10029345/runat_21062004_164145_29020/app_query.fasta_1.1294
-DB=N_Geneseq_292an04 -QFMT=fastap_-SUFFTX=rrg_-MINMATCH=0.1 -LOOPCL=0
-LOOPEXT=0 -UNITS=bits -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi
-LIST=45 -DOCALICN=200 -THR_SCORE=pct -THR_MXX=100 -THR_MIN=0 -ALICN=15
-MODE=LOCAL -OUTFMT=pto -NORM=ext -HEAPSIZE=500 -MINLEN=0 -MAXLEN=2000000000
-USER=US10029345_GCGN_1_1_687_@runat_21062004_164145_29020 -NCPU=6 -ICPU=3
-NO_MMAP -LARGEQUERY -NEG_SCORES=0 -WAIT -DSPELOCK=100 -LONGLOG
-DEV_TIMEOUT=120 -WARN_TIMEOUT=30 -THREADS=1 -XGAPDP=10 -XGAPDEXT=0.5 -FGAPOP=6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OM protein - nucleic search, using frame_plus_p2n model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                           N_Geneseq_29Jan04:*
1: geneseqn1980s:*
2: geneseqn1990s:*
3: geneseqn2000s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Xgapop 10.0,
Ygapop 10.0,
Fgapop 6.0,
Delop 6.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3373863 seqs, 2124099041 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MAHEMIGTQIVTERLVALLE.....LGKVGSQSSFSGSMEIIEVS 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-109
3418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           June 21, 2004, 19:56:46; Search time 735.833 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                           geneseqn2000s:*
geneseqn2001as:*
geneseqn2001bs:*
geneseqn2002s:*
                                                                                                                                                                                                                                                                                            geneseqn2003as:*
geneseqn2003bs:*
geneseqn2003cs:*
                                                                                                                                                                                                                                                                geneseqn2004s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Xgapext
Ygapext
Fgapext
Delext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0.5
7.0
7.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (without alignments)
3839.259 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6747726
```

'n		Query			SCHARLES.	
ľ	Score	Match	Match Length DB	BB	ID	Description
۳	3418	100.0	5450	σ	ACC60559	Acc60559 Polynı
N	3418	100.0	5450	σ	ACC60572	Acc60572 Polynucle
w	3406	99.6	2732	4	AAD09492	Aad09492 Human SGP
4.	3406	99.6	3059	σ	AAS15768	Aas15768 cDNA s
ហ	3406	99.6	3104	9	ABN59704	Abn59704 Novel
Φ	3406	99.6	3496	6	ABK47596	Abk47596 cDNA enco
7	3406	99.6	3544	ហ	AAS14639	Aas14639 Human
œ	3406	99.6	3544	6	ABK49402	Abk49402 cDNA

ALIGNMENTS

XX PA	YY	PR	PR	PR	PR	×	ЭĠ	×	PD	×	PN	×	သွ	×	X		æ			X	Œ	×	DŢ	×	AC	×	ID	ACC60559	RESULT
(BRIM) BRISTOL-MYERS SQUIBB CO.	25-JUN-2001; 2001US-0300465P.	05-JUN-2001; 2001US-0295848P.	01-MAY-2001; 2001US-0287735P.	30-MAR-2001; 2001US-0280186P.	20-DEC-2000; 2000US-0256868P.		20-DEC-2001; 2001WO-US050459.		25-JUL-2002.		WO200257460-A2.		Homo sapiens.		art failure; cancer; h	isorder;	disorder; renal failure; car	cardiant;	roliferative; hepatotropic;		Polynucleotide relating to the invention SEQ ID NO: 108.		19-JUN-2003 (first entry)		ACC60559;		ACC60559 standard; cDNA; 5450 BP.	0559	57 1

(BRIM) BRISTOL-MYERS SQUIBB CO.	01-MAY-2001; 2001US-0287735P. 05-UUN-2001; 2001US-0295848P. 25-UUN-2001; 2001US-0300465P.	20-DEC-2000; 2000US-0256868P. 30-MAR-2001; 2001US-0280186P.	20-DEC-2001; 2001WO-US050459.	25-JUL-2002.	WO200257460-A2.	Homo sapiens.	Gene; ss; antiproliferative; hepatotropic; nephrotropic; antiarthritic; antipsoriatic; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart defect; congestive heart failure; cancer; human; mouse; yeast; rat; fruitfly.

. 1077

```
Ś
                                                           밁
                                                                              Ş
                                                                                                            В
                                                                                                                                   Ş
                                                                                                                                                             뭐
                                                                                                                                                                                  Ś
                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-029-345A-109 (1-665) x ACC60559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The invention relates to a novel isolated nucleic acid comprising a CC polynucleotide having a nucleotide sequence selected from 40 CC polynucleotides fully defined in the specification. The polynucleotide of CC the invention has antiproliferative, hepatotropic, nephrotropic, contiarthritic, antipsoriatic, cardiant, and cytostatic activity. The CC polynucleotide may have a use in gene therapy. A polynucleotide or CC polypeptide of the invention is useful for preventing, treating or CC ameliorating a medical condition, e.g. a proliferative disorder. They are CC disorders including arthritis and psoriasis, renal failure, immunological CC such as congenital heart defects and congestive heart failure, and CC cancer. A method of the invention is useful for diagnosing a pathological CC condition or susceptibility to a condition in a subject. The present reverse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 5450 BP; 1471 A; 1211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Novel polynucleotides encoding human phosphatase polypeptides useful the prevention or treatment of e.g. proliferative and cardiovascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Jackson
Siemers
                                                                                 141
                                                                                                            898
                                                                                                                                   121
                                                                                                                                                             838
                                                                                                                                                                                    101
                                                                                                                                                                                                             778
                                                                                                                                                                                                                                                              718
                                                                                                                                                                                                                                                                                                               658
                                                                                                                                                                                                                                                                                                                                                                 598
                                                                                                                                                                                                                                    81
                                                                                                                                                                                                                                                                                     19
                                                                                                                                                                                                                                                                                                                                                                                                                538
                                                                                                                                                                                                                                                                                                                                      41
                                                                                                                                                                                                                                                                                                                                                                                        21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2002-599721/64.
                  ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                         LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer 140
                                                        ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr 160
                                                                                                                                                              GACTGI
                                                                                                                                                                                              recaercaeaaerretaertiaesarcaaaerrecaaeerrecerreceretera
                                                                                                                                                                                                               CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                ĠŔĊŔŔŔĠŤĠŦŤŔĸĬŦĬŔĊĸĠŔĠĊŦĊĸĬŦĊĊĸĠĊĸŦŤĊĸĠĊĠĸĸĸĸĊĸĬĸĸĸĠĠŦſĠĸĊĸŤŦĠĸŢ
                                                                                                                                                                                                                                                               cacatritigaaagccatraatatcaacrecticaagctratgaagccaaagctrecaacag
                                                                                                                                                                                                                                                                                                                                                                 SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer 40
                                                                                                                                                                                                                                                                                                                                                 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                 SNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fig 13; 801pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Feder J, Neisch.
Bol D, Schieven G,
Suchard S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3.02e-235
3418.00
100.00%
100.00%
100.00%
                                                                                                                                              ·GTĀCTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nelson T, Mintier G, Ramanathan
hieven G, Finger J, Todderud CG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ß
                                                                                                                                                                                                                                                                                                                                                                                                                                                          (1-5450)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1337 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Banas D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1431 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5450
665
0
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .C, Lee L;
Bassolino
                                            1017
                                                                                                                                              897
                                                                                                                                                                                                837
                                                                                                                                                                                                                        100
                                                                                                                                                                                                                                                777
                                                                                                                                                                                                                                                                         80
                                                                                                                                                                                                                                                                                                 717
                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                  657
                                                                                                                                                                                                                                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ď,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'n
                                                  뮍
                                                                          Ş
                                                                                                     밁
                                                                                                                       Ş
                                                                                                                                                      밁
                                                                                                                                                                          Ş
                                                                                                                                                                                                     밁
                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                         Вþ
                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                           망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ᅜ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뭥
                                                  2038
                                                                                                    1978
                                                                                                                                                      1918
                                                                                                                                                                                                      1858
                         521
                                                                                                                            481
                                                                                                                                                                              461
                                                                                                                                                                                                                                                                                                                                                         1678
                                                                                                                                                                                                                                                                                                                                                                                                        1618
                                                                                                                                                                                                                                                                                                                                                                                                                                                         1558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1498
                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                               401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1318
                                                                                                                                                                                                                                                                                                                                                                                381
                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     261
LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                     TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                       SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly 520
                                                                                                                                        GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                        AsplysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                                                                                                                         a A GCT A T G C C A GT T C T C C C C T G T C A G G A A C T A T C G G A G C A G A C T C C C G A A A C C A G T C C T
                                                                                                                                                                                                           LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                                                                         SerSerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn
                                                                                                                                                                                                                                                                                                           SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe 420
                                                                                                                                                                                                                                                                                          TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTC 1797
                                                                                                                                                                                                                                                                                                                                           AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                           SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe 400
                                                                                                                                                                                                                                                                                                                                                                                            CCCĂĞCGTĠCĊĂĠĊĠŦĠĊĂĠĊĊĠŦĊĠĊŦĠŦŦĀĠĀĠĠĀĊĀĠĊĊĊĠĊŦĠĠŦĀĊĀĠĠĊĠĊŦĊ
                                                                                                                                                                                                                                                                                                                                                                                                           ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                              TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                              CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisproAlaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAACCTGTCCCTGCTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro|
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CĂĠĂĊŦĠĠĀĠĊĀŦĊĀĠĠĠĊĊĀĀĀĠĀĠĊĀĀĀĊŦĊĀĀĠĊŦĠĊĀĊĠŦĠĠĀĠĀĀĠĊĊĀĀĀŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlnThrGlyAlaSerGlyProLy8SerLy8LeuLy8LeuLeuHisLeuGluLy8ProAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LysargMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aagaggartgacargretriagargaagerracagartregreaaagaaaaaaaagaceract
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cradrideacterriaderidedarerecederecedecaredarederiaredecrialeare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LeuvalHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
```

2037

480 1917 460 1857 440

1737

1677 380 1617 360 1557

1437

280 1377

1317 260

240 1257

1197

1137

340 1497 320

```
RESULT 2
ACC6052
ID ACC66
XX ACC66
XX ACC66
XX ACC6
XX Gene
KW Gene
KW Gene
KW Cong
XX Inmu
KW Cong
XX OC6
PN W020
XX OC7
PN W020
XX OC8
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W020
XX CONG
PN W0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          음 성 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ર્
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                    20-DEC-2000; 2000US-0256868P.
30-MAR-2001; 2001US-0280186P.
01-MAY-2001; 2001US-0287735P.
05-JUN-2001; 2001US-0295848P.
25-JUN-2001; 2001US-0300465P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gene; ss; antiproliferative; hepatotropic; nephrotropic; antiarthritic; antipsoriatic; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart defect; congestive heart failure; cancer; human; mouse; yeast; rat; fruitfly.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACC60572;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACC60572
                          disorders.
                                            Novel polynucleotides encoding human phosphatase polypeptides useful the prevention or treatment of e.g. proliferative and cardiovascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20-DEC-2001; 2001WO-US050459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25-JUL-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200257460-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Polynucleotide relating to the invention SEQ ID NO: 147.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19-JUN-2003
                                                                                                                                                                                                                                                                                                       (BRIM)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2098
                                                                                                                           2002-599721/64.
DB; ABR52407.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                   S N DG
                                                                                                                                                                                                                                                                                                       BRISTOL-MYERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IleIleGluValSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                Feder J, Nelson T,
Bol D, Schieven G,
Mcatee P, Suchard S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CDNA;
                                                                                                                                                                                                                                                                                                    SQUIBB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5450
                                                                                                                                                                                                                                                                                                       ႘
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ₽P
                                                                                                                                                                                                     ģ
                                                                                                                                                                                                   Mintier G, Ramanathan Finger J, Todderud CG, , Banas D;
                                                                                                                                                                                                                                C, Lee L;
Bassolino
                                                                                                                                                                                                                                Ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2157
```

```
# X S S S S S S S S S S S S S S X X X
                                                 The invention relates to a novel isolated nucleic acid comprising a polynucleotide having a nucleotide sequence selected from 40 polynucleotides fully defined in the specification. The polynucleotide of the invention has antiproliferative, hepatotropic, nephrotropic, antiarthritic, antipsoriatic, cardiant, and cycostatic activity. The polynucleotide may have a use in gene therapy. A polynucleotide or polypeptide of the invention is useful for preventing, treating or ameliorating a medical condition, e.g. a proliferative disorder. They are also useful for treating e.g. liver disease, renal failure, immunological disorders including arthritis and psoriasis, cardiovascular disorders such as congenital heart defects and congestive heart failure, and cancer. A method of the invention is useful for diagnosing a pathological condition or susceptibility to a condition in a subject. The present sequence is used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example 7; Fig 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          801pp; English
```

Sequence 5450 BP; 1471 A; 1211 C; 1337 G; 1431 T; 0 U; 0 Other;

Percent Similarity:
Best Local Similarity:
Query Match:
DB:

3.02e-235 3418.00 100.00% 100.00%

Length:
Matches:
Conservative:
Mismatches:
Indels:

5450 665 0

Alignment

Scores:

Мо :

US-10-029-345A-109 (1-665) x ACC60572

(1-5450)

Gaps:

```
밁
                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                       8
밁
                  Ś
                                           닭
                                                            8
                                                                                  g
                                                                                                         δ
                                                                                                                                     닭
                                                                                                                                                     δ
                                                                                                                                                                            밁
                                                                                                                                                                                                   δ
                                                                                                                                                                                                                             유정
                                                                                                                                                                                                                                                                                                 ঠ
                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                         1018
                                           1078
                                                                                                                                                           141
                    201
                                                                  181
                                                                                                               161
                                                                                                                                     958
                                                                                                                                                                                   898
                                                                                                                                                                                                         121
                                                                                                                                                                                                                                838
                                                                                                                                                                                                                                                      101
                                                                                                                                                                                                                                                                              778
                                                                                                                                                                                                                                                                                                                            718
                                                                                                                                                                                                                                                                                                                                                                        658
                                                                                                                                                                                                                                                                                                                                                                                                                      865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    538
                                                                                                                                                                                                                                                                                                    81
                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                               41
                                                                                                                                                                                                                                                                                                                                                                                                                                            21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           μ
                                                       GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                 GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                        CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                         AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                     HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                   SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
          IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu 220
                                                                                         CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                    ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                      ACTOTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                     ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                              AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                              GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                       AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                          CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
 GTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                         1077
                                                                                                                                                                                                                                                                                                     100
 1197
                                                                                                                                       1017
                                              1137
                                                                   200
                                                                                                                180
                                                                                                                                                                                                                                                                               837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     597
                                                                                                                                                            160
                                                                                                                                                                                   957
                                                                                                                                                                                                          140
                                                                                                                                                                                                                                  897
                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                             777
                                                                                                                                                                                                                                                                                                                                                   80
                                                                                                                                                                                                                                                                                                                                                                          717
                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                       657
                                                                                                                                                                                                                                                                                                                                                                                                                                              40
```

```
2038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1798
                                                                                                                                                                                                                                                                                                                                                                                                                                                          501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           261
AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                     SerAspl1eLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                  LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis 540
                                                                                                                                                                                                                                                                                                                                                                                                          SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                                                                                                                                           TCTCCACTGCATCGAAGTGGGAGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GATAAGGAGGAAGCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAGCTATGCCAGTTCTCCCCTGTŤCAGGAACTAŤCGGAGCAGACŤĊĊĊGAAAĊĆAGŤĊĊŤ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       réerearcagaagargerriggaaracracaaacerrecaeracreggargegaccaac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rcrcrggàtárcaaarcagtrrcátarrcagccagcarggaagcarccrracarggcrrc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAACCTGTCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro|
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ĊĀĠĀĊīTĠĠĀĠĊĀŤĊĀĠĠĠĊĊĀĀĀĠĀĠĊĀĀĀĊŤĊĀĀĠĊŤĠĊĀĊĊŤĠĠĀĠĀĀĠĠĊŖĀĀŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LysargMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet 260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               éradréca cretrina de regear en ce ce de récéde de de receir a care de receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la receir de la 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2277
                                                                                                                                                                                                               560
  600
                                                                                                                                                               2217
                                                                                                                                                                                                                                                                                                                                                                           2097
                                                                                                                                                                                                                                                                                                                                                                                                                              520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
```

В Ş 밁 Ş Дb 5 뭐 Ś ф Ś B Ś 뫄 S 밁 Ś B δ 뭐 Ş В Ś 밁 Ś 밁 S 밁 S 밁 S В Ś 당 Ś 밁 Ş

Claim 29; Fig

1; 186pp; English

neuronalimmune-related

```
RESULT 3
AADO 492
ID AADO
XX AADO
XX AADO
XX AADO
XX AADO
XX AADO
XX Huma
XX Huma
XX Huma
XX Infe
KW Ingur
KW Ingur
KW Ingur
KW Anti
KW Anti
KW Anti
KW Anti
KW Anti
KW Ingur
XX Homo
XX Homo
XX EJ-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
PR 28-J
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D
XX E1-D

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                    Plowman (
Hill RJ,
                                                                                                                                                                                                                                                                                                                  21-DEC-1999;
28-DEC-1999;
25-JAN-2000;
31-JAN-2000;
                             Novel phosphatase polypeptide useful for treating cancers, diseases and disorders, cardiovascular disease, brain or meassociated diseases and metabolic disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; SGP002 phosphatase polypeptide; phosphatase-related disease; immune-related disorder; ocular disease; organ transplant rejection; infection, diabetes; pain; sexual dysfunction; Alzheimer's disease; path; sexual dysfunction; Alzheimer's disease; path; sexual dysfunction; Alzheimer's disease; path; sexual dysfunction; alzorder; cardiant; path; sexual disorder; cardiant; cardiovascular disease; multiple sclerosis; amyotrophic lateral sclerosis; attention disorder; cognition disorder; psychotic disorder; dyskinesia; neurological disorder; crountion disorder; cytostatic; neurological disorder; virucide; nootropic; cerebroprotective; therapy; hypotensive; antibacterial; vulnerary; tranquilliser; antiasthmatic; antifungal; dual specificity phosphatase; DSP; MAP kinase phosphatase; MKP; migraine; chromosome 12p11.1-p12.1; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                               21-DEC-2000; 2000WO-US034736
                                                                                                                                                                                                                                                                              (SUGE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200146394-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAD09492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAD09492;
                                                                                                                                  2001-418058/44.
DB; AAE04834.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sapiens.
                                                                                                                                                                                a GD, Fu.
T. Flanagan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         641
                                                                                                                                                                                                                                                                         SUGEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     aadcadrittaaacdcadaadciteccaaatiggaatitiggagagagagcatcateteagagaac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGGTCACGGGAAGACTGGGGAAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ĊAĠĀĀĠĊĊĀĀĠŢĠĀĊĀĠĀĠĊŢĠĀĊŢĊĠĊĠĠĊĠĠĀĠĊŢĠĠĊĀŢĠĀĀĠĀĠĀĠĊĊĊĊŢŢŢĠĀĀ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; 99US-0173255P. NO
; 99US-0175766P. NO
; 2000US-0178078P. NO
; 2000US-0179301P. NO
                                                                                                                                                                                                                             Martinez
                                                                                                                                                                                                                                                                         INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      phosphatase polypeptide encoding DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers 538. .2535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /*tag=  a
/product= "Human SGP002 phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA;
                                                                                                                                                                                                                        'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2732
                                                                                                                                                                                                                        Whyte
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ВÞ
                                                                                                                                                                                                                     à
                                                                                                                                                                                                                   Manning
                                                                                                                                                                                                                   ģ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            polypeptide"
                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      620
```

1257

Percent Similarity: Best Local Similarity: US-10-029-345A-109 (1-665) x AAD09492 The present invention relates to phosphatase polypeptides, nucleotide consequences encoding them, as well as various products and methods useful cfor the diagnosis and treatment of various phosphatase-related diseases cand conditions. Substance that modulates the activity of phosphatase conditions is used to treat immune-related diseases and disorders, cardiovascular diseases, brain or neuronal-associated diseases and control disorders, including cancers of tissues, cancers of the metabolic disorders, including cancers of tissues, cancers of characteristic control diseases, parkinson's disease, multiple sclerosis, amyotrophic lateral sclerosis, viral infections, infections caused by prions, all therefore and fungi, ocular diseases, disperses, migraines, pain, sexual dysfunction, mood disorders, attention disorders, neurological disorders, hypotensias and organ transplant rejection. The present sequence is a DNA cansoling human SCPOU2 phosphatase polypeptide. This sequence is classified as dual specificity phosphatase (DSP) and MAP kinase classified as dual specificity phosphatase (DSP) and map kinase 1018 201 161 141 898 121 101 718 658 598 81 61 21 | IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA 710 A; 8.73e-235 3406.00 99.85% 99.70% 99.65% 684 C; 686 (1-2732)Length: Matches: Conservative: Mismatches: Indels: G; 652 T; 0 U; 0 Other; 2732 1137 1077 1017 40 220 180 160 957 140 897 120 837 100 777 717 60 597 20 밁 Ś 밁 ð 밁 δ 밁 S 밁 Ś 밁 δ 밁 S 밁 S 밁 Ś 밁 Ś 밁 S 밁 S 밁 á 片 δ 유 밁 δ δ S 밁 밁 1978 1858 1798 1738 1678 1618 1558 1438 1378 1318 1258 1198 2098 2038 1918 1138 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG 481 461 441 421 401 561 381 321 301 281 LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis SerLysArgLeuHisSerValArgThrSerSerGlyThrAlaGlnArgSerLeuLeu LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro SerSerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer SerAapIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACTGCCAGGCCTTCAGACAGCCAG AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCATCGCCTATCGCCTACATCATG TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACCAGCTTCCTTTTCGGC AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG POTOCOCOTOTTO AGGAACTATOGGAGO AGACTOCOGAA ACCAGTOCT 1497 460 440 1797 420 1617 1437 1377 1317 1197

Ś

밁 5 밁 ঠ 문 ક 밁 Ś

S 밁 중 유

뭐 5 밁

> 2217 560 2157

2097 520 2037 1977 480 1917

500

1857

1737 400 1677 380 360 1557

5 밁 5 밁

```
RESULT 4
ANS.15768
ID AAS1
XX AAS1
XX AAS1
XX AAS1
XX AAS1
XX AAS1
XX AAS1
XX AAS1
XX AAS1
XX Huma
XX Huma
XX Huma
XX Oste
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            유 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
The present invention relates to a new isolated dual specificity phosphatase (DUSP10) polypeptide, comprising a 665 residue amino acid provides a sequence that is fully defined in the specification. The invention also provides a sequence encoded by a 3059 nucleotide sequence fully defined in the specification, and a sequence having at least 95 % identity to the polypeptide, or fragments or variants of DUSP-10. The invention is useful for treating cancer e.g. leukaemia, colon carcinoma, lung cancer prostate cancer, metastasis of tumour cells, neo-angiogenesis, epilepsy, prostate cancer, metastasis of tumour cells, neo-angiogenesis, epilepsy, and the sequence of the sequence of the sequence of tumour cells, neo-angiogenesis, epilepsy, prostate cancer, metastasis of tumour cells, neo-angiogenesis, depression,
                                                                                                                                                                                                                                                                                                                            Novel dual specificity phosphatase polypeptides useful for treating cancers, epilepsy, stroke, neuronal degeneration syndromes, Alzhelmer's disease, depression, schizophrenia, asthma and immune disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          06-APR-2001; 2001WO-EP003966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; dual specificity phosphatase; DUSP-10; cancer; epilepsy; stroke; neuronal degeneration syndrome; Alzheimer's disease; depression; schizophrenia; asthma; immune disorder; inflammatory process; arthritis osteoporosis; diabetes; gene therapy; chromosome 12; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200177340-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAS15768 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2002-010917/01
                                                                                                                                                                                                                                                                                                              .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAU09946.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MERCK PATENT GMBH
                                                                                                                                                                                                                                                                                                  Page 34-37; 43pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ĠĊĊŦĀĊĀĠĊŤĠĊĀĠĊĊĀĠĊŤĠĊĊĀĊŤŦĠĊĠĠĀĠĀĊĊĀĀĠŤĊŤĀŤŤĊŤĠŤĠĊĠĊĀĠĠĊĠĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000EP-00107143.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of human (dual specificity phosphatase)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
127. .2124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 'product= "DUSP-10 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cDNA; 3059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DUSP-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         arthritis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           600
```

```
ДЪ
            밁
                               δ
                                                                                Ś
                                                                                                         Ъ
                                                                                                                                    δ
                                                                                                                                                           B
                                                                                                                                                                                    δ
                                                                                                                                                                                                               Ъ
                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                          뮍
                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-029-345A-109 (1-665) x AAS15768 (1-3059)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alignment
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8888888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     schizophrenia, cardiac myotrophies, asthma, immune disorders, inflammatory processes e.g. arthritis, bowel disease, type I diabetes, osteoporosis, diabetes and diabetes associated diseases. The molecules of the invention are also useful as vaccines for inducing immunological response in a mammal, in disease diagnosis and in assays for screening agonistic or antagonistic compounds. Other uses of the invention include in chromosome localisation studies, and as a valuable tool in tissue expression studies. The present sequence represents cDNA of the human dual specificity phosphatase, DUSP-10. DUSP-10 is located on chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 3059
                                                              727
                                                                                      201
                                                                                                               667
                                                                                                                                        181
                                                                                                                                                                 607
                                                                                                                                                                                          161
                                                                                                                                                                                                                    547
                                                                                                                                                                                                                                            141
                                                                                                                                                                                                                                                                      487
                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                        427
                                                                                                                                                                                                                                                                                                                                                101
                                                                                                                                                                                                                                                                                                                                                                          367
                                                                                                                                                                                                                                                                                                                                                                                                                            307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                187
                                                                                                                                                                                                                                                                                                                                                                                                  81
                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21
                                                arccccaagrerearreceraceraraceraaaraacacacerrregiaaaaaarrire
                ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                   GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
||||||||||||||||||||||||||||||||
                                                                 | IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                  CAGCAGAATGGGATTGGTTATGTGTTÄÄÄTGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                    ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180
                                                                                                                                                      CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                        ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                       ThrieuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr 160
                                                                                                                                                                                                                                                                          LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer 140
                                                                                                                                                                                                                                                        ctrechedredetriectedaetricteretetriectredectretetedadedaaditee 546
                                                                                                                                                                                                                                                                                                          GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG 486
                                                                                                                                                                                                                                                                                                                          AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu 120
                                                                                                                                                                                                                                                                                                                                                              CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100
                                                                                                                                                                                                                                                                                                                                                                                                              GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                               AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp|
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HisileLeuGluAlaileAsnileAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTGGAACGGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B₽;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1.02e-234
3406.00
99.85%
99.70%
99.65%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            831 A; 761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <u>ှ</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ŧ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3059
                                               786
846
                       240
                                                                                                 726
                                                                         220
                                                                                                                                                                                                        606
                                                                                                                           200
                                                                                                                                                      666
                                                                                                                                                                                                                                                                                                                                                              426
                                                                                                                                                                                                                                                                                                                                                                                                                366
                                                                                                                                                                                                                                                                                                                                                                                                                                         80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      186
```

 $\tt LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet$

```
1687
                                                                                                                                                                                                                                                                                                                                                      1627
                                                                                                                                                                                                                                                                                                                                                                                                                            1567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1027
                                                                                                                                   1807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1207
                                                                                                                                                                                                                                                                                                                  521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    847
GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                   AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                               ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer
                                                                                                                                                                                                                              SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                    LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                                                                                                                                                                                                                           SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                                                                                                                                                                                            AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerLysArgLeuHisSerValArgThrSerSerGlyThrAlaGlnArgSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SerSerGeunaspalaLeuGluTyrTyrLysProSerThrThrLeunspGlyThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAACCTGTCCCTGCTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                              CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                1746
                                                                                                                                                                                                                                                                                                                                                      1686
                                                                                                                                                                                                                                                                                                                                                                                                                            1626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1146
                                                            1926
                                                                                               600
                                                                                                                                   1866
                                                                                                                                                                       580
                                                                                                                                                                                                         1806
                                                                                                                                                                                                                                           560
                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1026
                          620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    906
```

중 유

S

Alignment Pred. No.:

Scores:

No.:

Sequence 3104

BP;

845

Α; 772

G

718

<u>ი</u>

769

H,

0

U; 0 Other;

Percent Similarity:
Best Local Similarity:
Query Match:
DB:

1.04e-234 3406.00 99.85% 99.70% 99.65%

Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:

0011

밁

유 & 밁 Ş 밁 S 밁 ર્ 밁

S 밁 δ á

음 성 음

ঠ 밁 5

В

밁 S 밁 ð 밁 S 문

S

당

음 성

```
RRSULT 5
ARBNS9704
IID ARBNY
XX ARBNS9704
ARC ARBNY
XX ARBNS9704
ARC ARBNY
XX ARROW
XX ARROW
DE NOVE
XX NOVE
XX Hums
XX Hums
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                  The present invention provides the protein and coding sequences of 444 novel human proteins. These were isolated from expressed sequences tagg (ESTs). They can be used to stimulate cell growth, to regulate haematopoiseis e.g. to treat aplastic anaemia, to help tissue regrowth e.g. in burn treatment, to regulate the immune system e.g. to treat multiple sclerosis, to regulate activin or inhibin e.g. to treat infertility, to regulate haemostasis or thrombolyseis e.g. to treat and cancer, to screen for drugs, to treat inflammatory conditions e.g. rheumatoid arthritis, and to treat nervous system disorders e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Tang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human; antianaemic; vulnerary; antiinflammatory; immunomodulator; antiinfertility; cerebroprotective; cytostatic; rheumatic; gene tineuroprotective; antiparkinsonian; protein therapy; EST; expressed sequence tag; gene; ss.
                                                      Parkinson's disease. The present sequence invention
                                                                                                                                                                                                                                                                                                                                                                       Claim 1; SEQ ID NO 115; 509pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                     An isolated polynucleotide for treating encoded polypeptide such as cancer and m
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Xue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11-SEP-2000; 2000US-00659671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10-SEP-2001; 2001WO-US026015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200222660-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel human coding sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ABN59704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (HYSE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g YT,
AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2002-292408/33.
DB; ABB97291.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Liu C,
Yang Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ArgSerArgGluGluLeuGlyLy8ValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Zhou P,
Wehrman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Asundi V,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Drmanac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ΒP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Zhang
RT;
                                                                                                                                                                                                                                                                                                                                                                                                                        g diseases associated multiple sclerosis.
                                                                                    6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŗ
                                                                                 b
                                                                              coding sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Zhao
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 '1
                                                                                                                                                                                                                                                                                           tagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2046
```

Db 879 C	b 579 y 161 y 163 0 639 0 699 759 221 819 819	
CTAGTGCACTGTTTAGCTGGATCT LYSATGMELASPMELSETLEUASPG		
LYSATGMELASPMELSETLEUASPGIUALATYTATGPHEVALLYSATGATATGCTTACATATG LYSATGMELASPMELSETLEUASPGIUALATYTATGPHEVALLYSATGATATGCTTACATATG		A-109 (1-665) x ABN59704 (1-3104) METALHISGIUMETILEGIYThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu ATGGCCCATGAGATGGATGGAACTCAAATTGTTACTGAGAGAGTTGGTGGACTCTGCAGA SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer AGTGGAACGGAAAAAGTGCTCCTAATTGATAGCGCCCCATTTTGTGGAATACAATACATCC HISILELeuGluAla11eAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln CACATTTTGGAAGCCATTAATTGATACCTCCCAAGCTTATGAAGCGAAAGTTGCAACAG
CCCGCTCCCCACCATCGCTATCGCCTACCATCA	OCYSLEUPROVAIAI.	3104)
CPTOPAGE SETVAL CONTROL CON	YSLEUPTOVAIAIAASHIIEGIYPTOTHY	"TGCTCTCTCTCTCACTG
93 28 99 30 30 10 32 32 34 111 111 111 111 111 111 111	F 160 C 638 C 638 e 180 G 698 G 200 F 758	GGlu 20 20 10
Db Oy Db Oy Db Oy Db RESULT 6 RESULT 6 ABK47596 ID ABK47596 ID ABK47596 ID ABK47596 ID ABK47596 ID ABK47596 ID ABK47596 ID ABK47596 ID ABK47596 ID ABK47596 ID ABK47596	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	40 64 64 64 64 64 64 64 64 64 64 64 64 64
1959 C 621 L 2019 A 2019 A 641 A 2079 A 2079 A 2139 A 7596 st 7596;	501 SerPro 1659 TCTCCA 521 LeuSer 1 1719 CTTTCCJ 1 1779 TCGGATJ 1 1779 TCGGATJ 1 1839 ACAGACT 1839 ACAGACT 1 1839 GCCTACA 1899 GCCTACA	1179 TGTGG 361 Prose 361 Prose
AGAAGCCAAGTGACAGAGCTGACTCGCGGAGCTGGCATGAAGAGAGCCCCTTTGAA ysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn	SerProLeuHisargSerGlySerValGluaspAsnTyrHisThrSerPheLeuPheGly	PIGTGCCGACTCTGCTACCTCAGAGGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
	SerValGluAspAsn	AGAGGCAGCAGGACA AGAGGCAGCAGGACA AASPArgLeuGluAs AGACAGCTGGCTGGAAAA AGACAGCTGGCTGGAAAAA AGACAGCTGGCTGGAAAAA AGACAGCTGGCAAACCAACTACCAACCTACAAACCTACAAACCTACCAAACCTACAAACCTACAAACCTACAAACCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGC
	TyrHisThrSerPhe	WAAGGCCCGTGCATCO WAAGGCCCGTGCATCO WAAGGCCCGCTGGT WAAGGCCCAGCTCGT WAAGGCCCAGCTCGT WAAGGCCCAGCTCGT WAAGGCCCAGCTCAA WAAGGCCCAGACT WAAGGCCCAGCACACCCCAGAAGCCCAGAAGCCCAGACCCCAGACCCCAGACCCCAGACCCCAGACGCCCAGACGCCCAGACGCCCAGACGCCCAGACGCCCAGACGCCCAGACGCCCAGACGCCCAGACGCCCAGACGCCCAGACGCCCAGACGCCCAGACGCCCCAGACGCCCAGACGCCCAGACGCCCAGACGCCCAGACGCCCAGACGCCCCCAAACGCCCCAGACCCCCC
		CCCCCAGCCAGCGTG AIGINAIALEU

ΔQ Ś Дb Ś 망

Ş DЬ Ś БР Ş B Ş 밁

140

981

120 861

921

741

681

801 80

160

1041

200

1161

220

180

1101

```
S
                          밁
                                                             ঠ
                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                     Score:
                                                                                                   US-10-029-345A-109 (1-665) x ABK47596
                                                                                                                                                    Query Match:
                                                                                                                                                                                                                                                                                                  The present invention relates to a new polypeptide, DSP-16, having a 665 camino acid sequence, given in the specification, or a variant having at 1 least 50 % identical residues, which retains the ability to dephosphorylate an activated mitogen-activated protein (MAP) kinase. The invention can be used for identifying agents which modulate DSP-16 activity, for modulation of a proliferative response in a cell, survival of a cell, or differentiation of a proliferative response in a cell, survival of a cell, or differentiation of a cell. The cell displays contact inhibition of cell growth or anchorage independent growth and may display altered intercellular adhesion. The agent may modulate apoptosis, or the cell cycle. The identified modulators can be used to treat Duchenne muscular dystrophy, cancer, graft-versus-host disease, autoimune diseases, allergies, metabolic diseases, abnormal cell growth, abnormal cell proliferation, and cell cycle abnormalities. The present nucleic acid sequence is that of the human dual-specificity phosphatase-3 (DSP-16) gene located on chromosome 12p. This sequence encodes the human DSP-16 protein of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; dual-specificity phosphatase-3; DSP-16; autoimmune disease; mitogen-activated protein kinase; MAP; Duchenne muscular dystrophy; cancer; graft-versus-host disease; allergy; metabolic disease; abnormal cell growth; abnormal cell proliferation; contact inhibition; cell cycle abnormality; anchorage independent cell growth; apoptosis; intercellular adhesion; DSP-16 modulator; chromosome 12p; gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New DSP-16 polypeptide, useful for identifying modulators of its activity, which can be used in the treatment of disorders such a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo
                                                                                                                                                                                                                                                                      Sequence 3496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 7; Fig 1; 87pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2002-315802/35.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25-SEP-2001; 2001WO-US030124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      04-APR-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200226997-A2
                                                                                                                                                                                                                       Хо
:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Duchenne muscular dystrophy, or cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Luche
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (CEPT-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26-SEP-2000; 2000US-0235487P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cDNA encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sapiens
                                   562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAU79156.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CEPTYR INC
 SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                    MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                   ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wei B;
                                                                                                                                                                                                                                                                        B₽;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers 562. .2559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag= a
/product= "Human dual-specificity phosphatase-3
                                                                                                                                                                                                                                                                      939 A; 854 C;
                                                                                                                                                 1.21e-234
3406.00
99.85%
99.70%
99.65%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          dual-specificity phosphatase-3
                                                                                                                                                                                                                                                                        856
                                                                                                                                                 Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                   (1-3496)
                                                                                                                                 Gaps:
                                                                                                                                                                                                                                                                        G; 847
                                                                                                                                                                                                                                                                      ⊢]
                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                      U; 0 Other;
                                                                                                                                      0044
                                                                                                                                                                                                    3496
663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (DSP-16) protein
   40
                                   621
                                                                  20
                                                 밁
                                                                                                                                                                                                                                                                               S
               á
                                                                              5
                                                                                                                   밁
                                                                                                                                            ঠ
                                                                                                                                                                                  В
                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   맔
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                  1642
                                                                                                                   1582
                                                                                                                                                                                      1522
                                                                                                                                                                                                                                                      1462
                                                                                                                                                                                                                                                                                                                         1402
                                                                                                                                                                                                                                                                                                                                                                                        1342
                                                                                                                                                                                                                                                                                                                                                                                                                                                            1282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                   381
                                                                                                                                                   341
                                                                                                                                                                                                                   321
                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                       281
                                                                                                                                                                                                                                                                                                                                                                                                                         261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           41
SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                       GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro
                                                                                                                                                                                                                                                                        GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn
                                                                                                                                                                                                                                                                                                                                       IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                             LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HislleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln 60
                                                                      ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                             CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                     TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                      CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                         ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                          AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAAGAAAAAAGACCTACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
```

1701

1641

360 1581 320

1461

1401 280 1341 1281 240 1221

260

```
RESULT 7
AAS14639
ID AAS1
XX AAS1
AC AAS1
XX AAS1
XX B-D
DT 18-D
XX Huma
XX Huma
XX Huma
XX Hema
KW Intel
KW Intel
KW cell
Human; ss; dual specificity phosphatase 21117; hepatotropic; cytos hematopoietic disorder; autoimmune disorder; diabetes mellitus; rheumatoid arthritis; multiple sclerosis; Crohn's disease; liver disorder; erythroid associated disorder; haemolytic anaemia; cellular proliferative; differentiative; disorder; haemolytic anaemia;
                                                                                                               AAS14639
                                                                         18-DEC-2001
                                                                                                                                                     2542
                                                                                                                                                                                         2482
                                                                                                                                                                                                                              2422
                                                                                                                                                                                                                                                                   2362
                                                                                                                                                                                                                                                                                                        2302
                                                                                                                                                                      661
                                                                                                                                                                                                          641
                                                                                                                                                                                                                                                                                                                                             2242
                                                                                                                                                                                                                                                                                                                                                                                  2182
                                                                                                                                                                                                                                                                                                                                                                                                                      2122
                                                                                                                                                                                                                                                621
                                                                                                                                                                                                                                                                                                                                                                                                                                                           2062
                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                         581
                                                                                                                                                                                                                                                                                                                                                               561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1882
                                                                                                                                                                                                                                                                                                                                                                                                                                        521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     401
                                                                                                             standard;
                                                                                                                                                 Arcarreaecrerce 2556
                                                                                                                                                             AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCT
                                                                                                                                                                                                                                LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                   AAĞCAĞTTTAAAACĞCAĞAAĞCTĞCCAAATTĞĞAATTTĞĞAĞAĞAĞCATCATĞTCAĞAĞAĞA
                                                                                                                                                                                                                                                        CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                     AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                              GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                   ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer
                                                                                                                                                                                                                                                                                                                                                                        reddataretridecececkadaeereraeeeerriceerdaeeadeaderderatrirgee
                                                                                                                                                                                                                                                                                                                                                                                   SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                                                                           CTTTCCACCAGCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC 2181
                                                                                                                                                                                                                                                                                                                                                                                                                       LeuSerThrSerG1ng1nHisLeuThrLysSerAlaG1YLeuG1YLeuLysG1yTrpHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                    encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A G CAAG CGATT G CATT CGGT CAGAAC CAG CAG CAGTGG CA C CG C CAGAGT C C CTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LysLeuCysG1nPheSerProValG1nG1uLeuSerG1uG1nThrProG1uThrSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a A G CT AT G C CA G T T C T C C C C T G T T C A G G A A C T A T C G G A G A C T C C C G A A A C C A G T C C T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCTTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rereridaráreaaareagrifeararreageeagearegearectriacaregerre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SerieuAspI1eLysSerValSerTyrSerAlaSerMetAlaAlaSerieuHisGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                        (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDNA;
                                              dual specificity phosphatase 21117.
                                                                      entry)
                                                                                                             3544
                                                                                                                                                                   665
                                                                                                             Β₽
                                                                                                                                                                               2541
                                                                                                                                                                                                660
                                                                                                                                                                                                                   2481
                                                                                                                                                                                                                                     640
                                                                                                                                                                                                                                                        2421
                                                                                                                                                                                                                                                                           620
                                                                                                                                                                                                                                                                                              2361
                                                                                                                                                                                                                                                                                                                                                     580
                                                                                                                                                                                                                                                                                                                                                                                         560
                                                                                                                                                                                                                                                                                                               600
                                                                                                                                                                                                                                                                                                                                   2301
                                                                                                                                                                                                                                                                                                                                                                        2241
                                                                                                                                                                                                                                                                                                                                                                                                                                                 2121
                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1761
   Ś
                     밁
                                      Ş
                                                           밁
                                                                            Ş
                                                                                                                                                         Score:
                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo
                      649
                                                           589
   41
                                        21
                                                                                                                                                                                            3544
```

```
The invention relates to two novel human dual specificity phosphatases CC designated 21117 and 38692, the nucleic acids encoding them (including CC hybridise to them) and antibodies raised against the proteins. The CC nucleic acid fragments are useful for detecting the presence of the polypeptide, and the CC nucleic acid, for diagnosing disease. Agents (e.g. the antibody and to five polypeptide) are useful for modulating the activity or expression CC nematopoietic disorders, autoimmune disorders (e.g. the antibody and CC of the polypeptide/nucleic acid, useful for the treatment of e.g. rheumatoid arthritis, multiple sclerosis, Crohn's disease and many others CC disorders (e.g. themolytic anaemia), cellular proliferative or carcinomas, sarcomas, metastatic cancers. Agents modulating 21117 and CC 38692 are also useful for modulating the proliferation, survival, CC gisted and nucleic acids are useful for identifying modulating cell. The CC agents. The present sequence encodes the dual specificity phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New human dual specificity polypeptides and nucleic acids for diagnosis of disease and treatment of e.g. liver disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     23-MAR-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200173059-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 acute myeloid leukaemia; carcinoma; sarcoma; metastatic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2001-611635/70.
DB; AAU09016.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MILLENNIUM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fig 1; 143pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0191858P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2001WO-US009477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /*rag= a
/product= "Dual specificity phosphatase 21117"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers 589. .2586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PHARM INC
```

BP; 1000 A; 840 Ç 822 G; 882 Ţ, 0 Ų; 0 Other;

```
밁
                                                                                                                                                   US-10-029-345A-109 (1-665) x AAS14639 (1-3544)
                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
Query Match:
DB:
709
  HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                     AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                     ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                          MetAlaHisGluMetIleGlyThrGln1leValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                          1.24e-234
3406.00
99.85%
99.70%
99.65%
                                                                                                                                                                           Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                   Length:
Matches:
                                                                                                                                                                                                                                 3544
663
```

60

40 708

648 20

٠.

뭐 Ś 밁 Ş 밁 S 당 Ş 밁 Ş 밁 Ś 밁 5 밁 Ś 밁 Ś B Ś Ъ Ś дb Ş 뫄 Ś 뮹 Ş 밁

```
1609
                                                                                                                                                                                                                                       1489
                                                                                                                                                                                                                                                                                      1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1129
1789
                                                                                           1669
                                                                                                                                                                                                                                                                                                                                    1369
                                                                                                                                                                                                                                                                                                                                                                                                                                  1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1009
                                                                                                                                                                                       1549
                                                                                                                 361
                                                                                                                                                                341
                                                                                                                                                                                                               321
                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                         261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   161
                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                       221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                      ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsmIleGlyProThr 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe 420
                                                         SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                          CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                       ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                         TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                       CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                                                                                                                     ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                 IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                    LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                             LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                            ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1788
                                                                                           1728
                                                                                                                                         1668
                                                                                                                                                                                       1608
                                                                                                                                                                                                                                       1548
                                                                                                                                                                                                                                                                                     1488
                                                                                                                                                                                                                                                                                                                                                                                                                                 1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1008
                                                                    400
                                                                                                                 380
                                                                                                                                                                360
                                                                                                                                                                                                               340
                                                                                                                                                                                                                                                             320
                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                    1428
                                                                                                                                                                                                                                                                                                                                                            280
                                                                                                                                                                                                                                                                                                                                                                                   1368
                                                                                                                                                                                                                                                                                                                                                                                                         260
                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           80
```

8 8 8 8

8 8 8 8

음 성

음 중

음 성 음 성

음 성 음

B & B & B & B

ঠ

ち 음 ち

8 8 8 8

```
RESULT 8
ABK49402
IID ABK4
XX
AC ABK4
XX
DT 02-J
XX
CDNA
XX
HUMA
XX
HUMA
XX
ETH
XX
KW HUMA
XX
KW HUMA
XX
KW HOME
XW erytr
XX
FT CDS
FT CDS
                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                    음 성 음
                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                        유왕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                              Homo
                                                                                  erythrocytosis; liver-related
                                                                                            Human; dual specificity phosphatase 21117; erythroid-related disorder; haematopoietic-related disorder; leukaemia; autoimmune disease; anaemi
                                                                                                                            CDNA
                                                                                                                                                                                        ABK49402 standard;
                                                                                                                                               02-JUL-2002
                                                                                                                                                                    ABK49402;
                                                                                                                                                                                                                                                                          2509
                                                                                                                                                                                                                                                                                                                    2449
                                                                                                                                                                                                                                                                                                                                                              2389
                                                                                                                                                                                                                                                                                                                                                                                                     2329
                                                                                                                                                                                                                                                                                                                                                                                                                                               2269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1849
                                                             sapiens
                                                                                                                          encoding
                                                                                                                                                                                                                                                                                               641
                                                                                                                                                                                                                                                                                                                                        621
                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                          581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCATTGAGGTCTCC
                                                                                                                                                                                                                                              IleIleGluValSer
                                                                                                                                                                                                                                                                         LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                                                                                                                                                                         GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                  AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                             LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SerLysArgLeuHisSerValArgThrSerSerGlyThrAlaGlnArgSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SerSerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn
                                                                                                                                                                                                                                                                                                                   AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                              CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                      GCCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                              (first
                                                                                                                          human
                            Location/Qualifiers 589. .2586
/*tag= a
/product= "Human dual specificity phosphatase
/note= "Specifically claimed in claim 2"
                                                                                                                                                                                        CDNA;
                                                                                                                         dual specificity phosphatase 21117 protein
                                                                                                                                                                                         3544
                                                                                                                                                                                                                                                      665
                                                                                  disorder;
                                                                                  cancer;
                                                                                 gene; ss.
                                                                                             disease; anaemia;
                                                                                                                                                                                                                                                                           2568
                                                                                                                                                                                                                                                                                                                                                              2448
                                                                                                                                                                                                                                                                                                                                                                                                      2388
                                                                                                                                                                                                                                                                                                                                                                                                                                               2328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         460
                                                                                                                                                                                                                                                                                               660
                                                                                                                                                                                                                                                                                                                     2508
                                                                                                                                                                                                                                                                                                                                                                                  620
                                                                                                                                                                                                                                                                                                                                                                                                                          600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1908
```

```
Best Local Si
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-029-345A-109 (1-665) x ABK49402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present invention relates to new nucleic acids designated 38692 and 21117 encoding dual specificity phosphatase family members. The nucleic acid, polypeptide encoded by it, and antibody specific for the polypeptide may be used to diagnose and treat haematopoietic-related disorders such as leukaemias and autoimmune diseases, erythroid-related disorders such as anaemias and erythrocytosis, liver-related disorders, as anaemias and erythrocytosis, liver-related disorders, particularly of the breast, colon, adipose, prostate and specificity phosphatase 21117 protein of the invention, as described above
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New nucleic acids, designated 38692 and 21117, encoding dual specificity phosphatases for treating cell proliferation and differentiation disorders including hematopoietic and erythroid-related disorders and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 2; Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Meyers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (MEYE/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            23-MAR-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US2002034807-A1
                            949
                                                           121
                                                                                             889
                                                                                                                             101
                                                                                                                                                                 829
                                                                                                                                                                                                81
                                                                                                                                                                                                                                  769
                                                                                                                                                                                                                                                                                                       709
                                                                                                                                                                                                                                                                                                                                                                           649
                                                                                                                                                                                                                                                                                                                                                                                                                                              589
                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Scores:
                                                                                                                                                                                                                                                                                                                                       41
                                                                                                                                                                                                                                                                                                                                                                                                           21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              μ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2002-351088/38.
)B; AAU79929.
                                                                         CTTGCAGGTGGGTTTGC
                          LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLySser
                                                                                                                                                                 recaercagaaegrreraerracearcaaaecreceaaearerrecerererea
                                                                                                                                                                                                                                  GACAAAGT
                                                                                                                                                                                                                                      CÁCATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                         | HisileLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                      AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                           SerGlYThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                          ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1; 76pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ВP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0191858P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2001US-00816494.
                                                                                                                                                                                                               GTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1.24e-234
3406.00
99.85%
99.70%
99.65%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ç;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (1-3544)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               822 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Η,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0 U; 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3544
663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Other;
     1008
                                                                                                                                              888
                                                                                                                                                                                                                 828
                                                                                                                                                                                                                                                 80
                                                                                                                                                                                                                                                                                     768
                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                        708
                                                                                                                                                                                                                                                                                                                                                                                        40
                                                                                                                                                                                                                                                                                                                                                                                                                            648
                                           δ
                                                                                  밁
                                                                                                                  Ş
                                                                                                                                                         밁
                                                                                                                                                                                δõ
                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                     뫄
                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                      뮍
                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                   DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                  1969
                                                                                                                                                     1909
                                                                                                                                                                                                                           1849
                                                                                                                                                                                                                                                                                                                                                                1729
                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                   1669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1609
                                                                                                                  461
                                                                                                                                                                                       441
                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                              401
                                                                                                                                                                                                                                                                                                                                                                                                 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            201
                    SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu 500
GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                      AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                                                                    AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                           LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                        TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                SerSerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn 440
                                                                                                                                                                                                                                                                         rérerégaráreaaáreagrireararreageéagearegeárectracaregerre
                                                                                                                                                                                                                                                                                                SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                                                                                                               AGTGGGCTGCÁCCTGTCCGCÁGÁCÁGACÁGGCTGGAÁGÁCÁGCÁÁTÁÁGCTCÁÁGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                   SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                         ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu 380
                                                                                                                                                                                                                                                                                                                                                                                                                  CCCAGCGTGCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAACCTGTCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cá Gá Crega de care a de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara de cara 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTAGTGCACTGTTTAGCTGGGATCTCCGCTCCGCCACCATCGCTATCGCCTACATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProTrpLeuAspLysSerValAspPhe11eGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
```

5 δ 밁 8 밁 Ś В Ś 뭐 Ş

2028

1968 480

460 1908

1848 420 1788 400 1728

1668

1608

1 320

1488 300

1428 280 1368

260

1308

240 1248

1188

220

1128

200

1548 340

밁 Ś 밁 5

```
RESULT 9
ABK14474
ID ABK1
XX ABK1
XX ABK1
XX ABK1
XX Huma
XX Huma
XX Huma
XX Huma
XX Homc
Croh
XX Gene
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ર્
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           吊
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                      28-JUL-2000;
03-AUG-2000;
10-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human; protein phosphatase 7; PP7; immune system disorder; AIDS; acquired immunodeficiency syndrome; thymic hypoplasia; anaemia; asthma; crohn's disease; neurological disorder; epilepsy; Huntington's disease; dementia; parkinson's disease; developmental disorder; Down's syndrome; cell proliferative disorder; cancer; adenocarcinoma; leukaemia; lymphoma melanoma; myeloma sarcoma; gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human
                                                     18-AUG-2000;
30-AUG-2000;
                                                                                                                                                                                                                                                                                                                  WO200210363-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HOMO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     08-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABK14474;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABK14474 standard; cDNA;
                                                                                                                                                                                                            26-JUL-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ArgSerArgGluGluLeuGlyLy8ValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGGGCTGGCATGAAGAGAGCCCCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCTACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTTTCCACCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTCCACTGCATCGAAGTGGGAGGGAGGAGAATTACCACACCAGCTTCCTTTTCGGC
                          ; 2000US-0221679P.
; 2000US-0223272P.
; 2000US-0224309P.
; 2000US-0226728P.
; 2000US-0229254P.
; 2000US-0231366P.
                                                                                                                                                                                                              2001WO-US023716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  phosphatase 7 (PP7) cDNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers 538. .2535
                                                                                                                                                                                                                                                                                                                                                    /*tag= a
/product= "Protein_phosphatase_7_(PP7)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    520
```

```
(INCY-) INCYTE GENOMICS INC
```

Tang YT, Elliott VS, Raml Stewart EA, Gandhi AR, Pa Tribouley CM, Griffin JA, Kearney L; Ramkumar J, R, Patterson n JA, Baughn Ŋ. Yao MG, Bui LC, Lee EA, LMR, Yue H, Burford N, Wang YE; A, Hafalia AJA, Lu H, Warren BA, Nguye DAM; en DB;

2002-188735/24. DB; AAU75789.

New protein phosphatases, useful for diagnosing, treating or previmmune system disorders (e.g. Crohn's disease), neurological diso (e.g. Parkinson's disease), or cell proliferative disorders (e.g. preventing disorders

Claim 5; Page 114-115; 117pp; English.

The present invention relates to a new polypeptide, a naturally occurring amino acid sequence at least 95 % identical to it, a biologically active fragment of it or an immunogenic fragment of it. The polypeptides, polymucleotides, agonists and antagonists are useful for disgnosing, treating or preventing disorders associated with aberrant expression of protein phosphatases (PP), particularly immune system disorders e.g. acquired immunodeficiency syndrome (AIDS), thymic hypoplasia, anaemia, asthma or Crohn's disease, neurological disorders e.g. epilepsy, Huntington's disease, dementia or Parkinson's disease developmental disorders e.g. Down's syndrome, or cell proliferative disorders e.g. cancers including adenocarcinoma, leukaemia, lymphoma, melanoma, myeloma or sarcoma. The present nucleic acid sequence encodes human protein phosphatases 7 (PP7) which is one of several human protein phosphatases (AAU75783-AAU75792) of the invention

Sequence 3766 BP; 1011 A; 903 Ç 918 ဂ္ 934 H, 0 ς; 0 Other;

Percent Similarity:
Best Local Similarity:
Query Match:
DB: Alignment No.: Scores 1.34e-234 3406.00 99.85% 99.70% 99.65% Conservative: Mismatches: Indels: Gaps: 3766 663 1 1 0

US-10-029-345A-109 (1-665) x ABK14474 (1-3766)

음 성 Ъ 5 Д S Ъ Ś 밁

1198

241

1138

201

221

1078

181

1018

161 958

```
SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                             ĠATAĀĠĠĀĠĠĀĀĠĊĊĀĠĊĀŦĆĊĊĊĀĀĠĀĀĠĠĊĠĠĠĀĠĀĊĊĠĊĊĀĠĠĊĊŦŢĊĀĠĀĊĀĠĊĊĀĠ
                                                                                                                                                                  AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln 480
                                                                                                                                                                                                                   LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                                                                                                           SerLeuAspI1eLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProSerValProSerValGinProSerLeuLeuGluAspSerProLeuValGlnAlaLeu 380
                                                                                                                                                                                                                                                                                                                                                                     reterregariareaaareagrifeakirirekseeksekstesekseksteetrikearegerite
                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CY9AlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAACCTGTCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro 340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC 1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a A GA GA TOGA CATOT CTTTA GAT GA A GCTTA CAGAT TTOT GAA A GAA A A A A A GA CCTACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LysargMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ccdrddridgacaaarcagradarrrcarrdagaaaadcaaaadccrccaardgargrdri 1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             arccccaagrerearricerecererecerereaareacerereaareacerrreereaaaaarring
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG 1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     520
                                                                   2037
                                                                                                                                           1977
                                                                                                                                                                                                                     1917
                                                                                                                                                                                                                                                          460
                                                                                                                                                                                                                                                                                                                                                                           1797
                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1017
RESULT 10
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
ABN83966
AB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                              Genes and their expression products cloned from human cDNA libraries for treatment and diagnosis of diseases associated with their expression.
    Claim 1(a); Page 111-117; 238pp; Japanese
                                                                                                          WPI; 2002-500762/53.
P-PSDB; ABB97946.
                                                                                                                                                                      Ohara o,
                                                                                                                                                                                                                                                          22-DEC-2000; 2000JP-00389742.
                                                                                                                                                                                                                                                                                               20-DEC-2001; 2001WO-JP011217.
                                                                                                                                                                                                  (KAZU-) KAZUSA DNA RES INST FOUND (CELE-) CELESTAR LEXICO-SCI LTD.
                                                                                                                                                                                                                                                                                                                                          04-JUL-2002.
                                                                                                                                                                                                                                                                                                                                                                             WO200252005-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; brain; tonsil; hippocampus; foetal brain; diagnosis; gene; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human gene sequence #13.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABN83966 standard; DNA; 4790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABN83966;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2338 CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661 IleIleGluValSer 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2038 TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nagase T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCATTGAGGTCTCC 2532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          agercacegeaagaecreedaaaeregecaercaercraecriticegecaecaecaregaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu 620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer 580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ĠĊĊŢĀĊĀĠĊŢĠĊĀĠĊŢĠĊĊĊĀĊŢŢĠĊĠĠĀĠĀĊĊĀĀĠŢĊŢĀŢŢĊŢĠŢĠĊĠĠĀĠĠĊĠĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerAspIleLeu&laProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ВÞ
```

S 밁 Ş 밁 5 ₽ Ś 밁 δ 밁 Ş B Ş 뮍 Ś Д Ş B Ş 밁 Ş 뮍 Ş 밁 δ 밁 Ś

501

1918

481

1858

441

1798

421

1738

401

1678

381

1618

361

1558

341

1498

321

1438

301

1378

1318

1258

2397

2337 600 2277

2217 560 2157 540

888888888888888

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-029-345A-109 (1-665) x ABN83966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to DNA encoding polypeptides directly cloned from cDNA libraries originating in adult whole brain, human tonsil, human adult hippocampus and human feetal whole brain. Polypeptides and polymucleotides of the invention may be used in the investigation of differential expression of the DNA sequences in normal subjects and disease patients. They may also be used in the production of antibodies, oligonucleotide probes and DNA chips for diagnosis and identification of drugs for treatment of diseases with which the DNA sequences are associated. The sequences given in records ABN83954-ABN83984 represent human gene sequences of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                201
                      241
                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                 664
                                                                                                                                                                                                                                                                                161
                                                                                                                                                                                                                                                                                                                  604
                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21
LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                      IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                     GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                    ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                 ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                   LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CysSerGlnLysValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hi8IleLeuGluAlaIleA8nIleA8nCy8SerLy8LeuMetLy8ArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                     ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGGCCCATGAGATGGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1293 A; 1064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1.85e-234
3406.00
99.85%
99.70%
99.65%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C; 1152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (1-4790)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Η,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4790
663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0 U;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Other;
                                                                                                                                                                                                                                                                                180
                    260
                                                    903
                                                                                   240
                                                                                                                                                220
                                                                                                                                                                                  783
                                                                                                                                                                                                                                               723
                                                                                                                                                                                                                                                                                                                  663
                                                                                                                                                                                                                                                                                                                                                160
                                                                                                                                                                                                                                                                                                                                                                                 603
                                                                                                                                                                                                                                                                                                                                                                                                               140
                                                                                                                                                                                                                                                                                                                                                                                                                                                 543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20
                         S
                                                                  밁
                                                                                             Ś
                                                                                                                                                         Ş
                                                                                                                                                                                              밁
                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        片
     밁
                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            よ
                                                                                                                                                                                                                                                                1744
                                                                                                                                                                                                                                                                                                                                                                                              1624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1024
                                                                                                                                  1864
                                                                                                                                                                                                 1804
                                                                                                                                                                                                                                                                                                                                 1684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1084
                                                                                                                                                                 561
                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                               521
                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              341
                                   601
                                                                                                                                                                                                                                                                                                                                                              501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             904
                      GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                   ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer
                                                                                                                                                                                                                    SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                     SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                                                                                                                                                              AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerSerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn
                                                                                      AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                  CTTTCCACCAGCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                     LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                                                                                                                                                                               TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACCACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                 ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                   TCGGATATCTTGGCCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGGCCAGCGTG
                                                                                                                                                                                                   1863
                                                                                                                                                                                                                                                                  1803
                                                                                                                                                                                                                                                                                                                                   1743
                                                                                                                                                                                                                                                                                                                                                                                                  1683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1083
                                   620
                                                                     1983
                                                                                                                                    1923
                                                                                                                                                                                                                                   560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1023
```

밁 ঠ

음 중

밁 ঠ 밁

중 유

5 8 중 유 S В र् 밁 S 밁 ð 망 ð 8 ঠ

```
RESULT 11
ABV20833
ID ABV20833
ID ABV20833
ID ABV20834
ID ABV20834
ID ABV208
ID Human
ID Human
IXW Human
IXW Pharm
IXW Pharm
IXW Pharm
IXW Pharm
IXW Pharm
IXW Pharm
IXW Pharm
IXW Pharm
IXW Pharm
IXW Pharm
IXW Pharm
IXW Pharm
IXW Pharm
IXW Pharm
IXW Pharm
IXW I1-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
PR 11-FE
                         Percent Similarity:
Best Local Similarity:
                                                                                                    Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              성 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                               The invention relates to an isolated nucleic acid molecule (I) comprising a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for: (a) assessing whether progression of prostate with prostate cancer; (b) monitoring the of a test compound to inhibit prostate cancer; (c) assessing the efficacy the efficacy of a therapy for inhibiting prostate cancer in a patient; (d) assessing the efficacy is electing a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate call carcinogenic potential of a compound; (g) assessing the prostate cancer has metastasized in a patient; (e) assessing the prostate cancer has metastasized in a patient; (h) assessing the aggressiveness or indolence of prostate cancer in a patient; (ii) is also useful as a pharmacodyanamic or pharmacogenomic marker
                                                                                    No.:
                                                                                                                                   Sequence 5145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17-FEB-2000;
16-MAR-2000;
25-MAY-2000;
09-JUN-2000;
18-JUL-2000;
13-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                             Novel isolated nucleic acid molecule associated with cancerous state prostate cells and correlating with presence of prostate cancer, uses for detecting presence of prostate cancer, stage of prostate cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2001-662795/76.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (MILL-) MILLENNIUM PREDICTIVE MEDICINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20-FEB-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200160860-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; prostate pharmacogenomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABV20833 standard; cDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABV20833;
                                                                                                                                                                                                                                                                                                                                                                                                   1; Page 3419; 11750pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       prostate expression marker cDNA 20824.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ₽,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | IleIleGluValSer
| | | | | | | | | | | | | | |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGGTCACGGGAAGAGCTGGGGAAAGTGGGGCAGTCAGTCTAGCTTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; 2000US-0183319p.
; 2000US-0189862p.
; 2000US-0207454p.
; 2000US-0211314p.
; 2000US-02119007p.
                                                                                                                                     ВP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0255281P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2001WO-US005171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        marker;
                                                                                                                               1408 A;
                       2.03e-234
3406.00
99.85%
99.70%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         o,
                                                                                                                               1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cytostatic; carcinogen; pharmacodyanamic gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  665
                                                                                                                              Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         쁌
               Matches:
Conservative:
Mismatches:
                                                                                                                               1253
                                                                                                                        G; 1346 T; 0 U;
                                                                                                                          w
                                                                                                                        Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              marker;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                640
                                                     δ
                                                                                        밁
                                                                                                                            Ś
                                                                                                                                                               В
                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                        뮍
                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                            Вb
                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-029-345A-109 (1-665) x ABV20833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match:
DB:
                 1549
                                                                                        1489
                                                                                                                                                                 1429
                                                     321
                                                                                                                                                                                                                                                                                                                                                                                    1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                           1189
                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1129
                                                                                                                                                                                                                                                                           261
                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1009
                                                                                                                                                                                                                                                                                                                                                                                                                         221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     41
GAĂCCTGTĊCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                       GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro 340
                                                                      CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                            GlnThrGlyA1aSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21
                                                                                                                                             atatetechaactiteaatititeteggechaeteetegaetateagaagaagatiaagaac
                                                                                                                                                                 LysargMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                           CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                   LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                  CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                          ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG 1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACTCTAGTĆĆĊTAĆĆTĠĆAŤŤŤĆŤĆAĠĆĆŤŤĠĆŤŤAČĆŤĠŤŤĠĊĆAÁČÁŤŤĠĠĠĊĊĀÁĊĆ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ThrreuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTTGCAGGTGGGTTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                recaercaeaaegrieraerraecearcaaaecreceaaearerrecerererea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HislleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGTGGĀACGGAAĀĀĀGTGĊTGĊTĀĀTTĠĀTĀĠĊĊĞĠĊĊĀTŤTGTGĠĀĀTĀĊĀĀTĀĊĀŤĊĊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              argecceargagargatriggaacreaaarrgraecrgagaggraggreggregergergeaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             rctcactigiactictigggiaaactiggagaagacticaactictigiticaccitg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99.65%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (1-5145)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                00
```

1548

1488 320

1428 280 260 1308 240

1188

1128 180 1068

1008 140 948 120 888

828 80 768 60 708

648

```
ABV21080
ID ABV2
XX
AC ABV2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             중 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                               & & &
                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                    중 유
                                                                                                                                                                                                                                                                                                    $
                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                      5
                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                           ક
                                                                                                                                                                                                                                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                   RESULT 12
 ABV21080;
                          ABV21080 standard; cDNA; 5145
                                                                                                                                                                                                                                                                                                                                      2269
                                                                                                                                                                                                                                                                                                                                                                                           2209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      381
                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                          IleIleGluValSer 665
                                                                                                                                             ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                                LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                                                    GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                    AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                     ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer
                                                                                                                                                                                                                                                                                                                                                                                         TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                        SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                                              CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                           LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTCCACTGCATCGAAGTGGGAGCGTGGAGGACAATTACCACACCAGCTTCCTTTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SerSerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGCATGGCATCCTTACATGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ProSerValProSerValGlnProSerLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                                                                                                                     GCCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                       ACAGAGTCCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                              2583
                          ВP
                                                                                                                                                                                                                                   2448
                                                                                                                                                                                                                                                                                                                                       2328
                                                                                                                                                                                                                                                                                                                                                                                           2268
                                                                                                                                                                                                                                                                                                                                                                                                                                              2208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1668
                                                                                                                                                        660
                                                                                                                                                                                                          640
                                                                                                                                                                                                                                                            620
                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                 580
                                                                                                                                                                                                                                                                                                                                                                                                                    560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           380
```

```
17-FEB-2000; 2000US-0183319P.
16-MAR-2000; 2000US-0189862P.
25-MAY-2000; 2000US-0207454P.
09-JUN-2000; 2000US-0211314P.
18-JUL-2000; 2000US-0219007P.
13-DEC-2000; 2000US-0255281P.
                                                  Novel isolated nucleic acid molecule associated with cancerous state of prostate cells and correlating with presence of prostate cancer, useful for detecting presence of prostate cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human; prostate cancer; cytostatic; carcinogen; pharmacodyanamic marker; pharmacogenomic marker; gene; ss.
Claim
                                                                                                                                                               WPI; 2001-662795/76.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20-FEB-2001; 2001WO-US005171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13-SEP-2002
                                                                                                                                                                                                                                                                       (MILL-) MILLENNIUM PREDICTIVE MEDICINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sapiens.
  1:
Page 3481; 11750pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first
                                                                                                                                                                                                                  Endege
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             expression marker cDNA 21071
                                                                                                                                                                                                                  Š.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entry)
```

Alignment Pred. No.: Percent Similarity:
Best Local Similarity:
Query Match:
DB: The invention relates to an isolated nucleic acid molecule (I) comprising a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for: (a) assessing whether a patient is afflicted with prostate cancer; (b) monitoring the progression of prostate cancer in a patient; (c) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (d) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (e) selecting a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate cancer has metastatized in a patient; (h) assessing the aggressiveness or indolence of prostate cancer in a patient; (l) is also useful as a pharmacodyanamic or pharmacogenomic marker Sequence 5145 BP; 1408 A; 1135 C; No.: Scores: 2.03e-234 3406.00 99.85% 99.70% 99.65% Conservative: Mismatches: Indels: Gaps: 1253 G; 1346 T; 0 U; 3 0011 Other;

US-10-029-345A-109 (1-665) x ABV21080 (1-5145)

```
밁
                                                      Ş
                                                                                       片
                                                                                                               δ
                                                                                                                                              밁
                                                                                                                                                                         δ
                                                                                                                                                   589
                                                                                         649
                            709
                                                          41
 61
                                                                                                                    21
                                                                                                                                                   ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                   MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                               HiBIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                         AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                       SerGlyThrGluLy8ValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                           60
                                                                                         708
                                                                                                                       40
                                                                                                                                                   648
```

```
AGTGGGCTGCACCTGTCCGCAGACACGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC 1788
                                                                                                                                                                                                                                                                                                                                                                      SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cccadcdrigcccadcdrigcadccdrcdcrorraddaddadadccddcriddracaddcdcrc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAAAAAGCGAGACCCCCTCAGTCCACCC 1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cagacrogagoarcagogocaaagagocaaacroaagorogocagocorogoagaagocaaar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LysargMetAspMetSerLeuAspGluAlaTyrargPheValLysGluLysArgProThr 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAAGCCTCCAATGGATGTGTT 1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cagcagaariggearragiriarigrigriaaargecaageaaraeergreeaaageergaerrr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlnGlnAsnGlylleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
||||||||||||||||||||||||||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ceaarrerreceáarerrario de creceración de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservados de conservado
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ArgIleLeuProAsnLeuTyrLeuGlYCysGlnArgAspValLeuAsnLysGluLeuIle 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AspCysPheLeuThrvalLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            828
             RESULT 13
ABV26680
ID ABV26680
XX ABV266
XX ABV26
XX Human
XX Human
XX Phomo |
XX Phomo |
XX Homo |
XX Homo |
XX Homo |
XX Phomo |
XX Phomo |
XX Homo |
XX Homo |
XX Homo |
XX Phomo |
XX Phomo |
XX Homo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Homo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Phomo |
XX Pho
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             멍
17-FEB-2000; 2000US-0183319p
16-MAR-2000; 2000US-0189862p
                                                                                                              20-FEB-2001; 2001WO-US005171
                                                                                                                                                                                                                23-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                       Human; prostate cancer; cytostatic; carcinogen; pharmacodyanamic marker;
pharmacogenomic marker; gene; ss.
                                                                                                                                                                                                                                                                                           WO200160860-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16-SEP-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABV26680;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABV26680 standard; cDNA; 5145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                prostate expression marker cDNA 26671.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1849 TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC 1908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ArgSerArgGluGluLeuGlYLysValGlySerGlnSerSerPheSerGlySerMetGlu 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu 620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGGTCACGGGAAGAGCTGGGGAAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA 2568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCTACAGCTGCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrpheAla 560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              reddafrarerredecececkadaeereraeeeerreeerdaeekdecadeerderarrredee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ĊŦŦŦĊĊĀĊĊĀĠĊĀĠĊĀĠĊĀĊĊŦĊĀĊĠĀĀĠŦĊŦĠĊŦĠĠĊĊŦĠĠĠĊĊŦŦĀĀĠĠĠĊŦĠĠĊĀĊ 2208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rérecaeriscarésaasrissassississassas raceaetaecas en recentricos en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra estas en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra en recentra e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly 520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AdCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a Aderia recede de recede de la recede de la receda de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la recede de la
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ВP
```

2448

2388

600

2328 580 2268

2148

2088

Ś 밁 S Ъ Ś 뭥 Ş 문 Ş В δ 밁 Ş 뭐 Ş g δ 멍 S 밁 Ś 밁 Ś 밁 Ş 당 Ş 밁 5 멍 Ś 뮍 Ş 밁 δ 밁

1669

361

381

1609

1549

321

341

1489

301

1429

281

1369

261

1309

1249

241

1189

201

221

1129

1069

1009

141 949

688

101 829

769

81

121

```
음 성 음
                                                                                                                                                                                  밁
                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ક
                                                                                                     ફ
                                                                                                                                     밁
                                                                                                                                                       ર્ક
                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                               US-10-029-345A-109 (1-665) x ABV26680
                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to an isolated nucleic acid molecule (I) comprising a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for: (a) assessing whether a patient is afflicted with prostate cancer; (b) monitoring the progression of prostate cancer in a patient; (c) assessing the efficacy of a test compound to inhibit prostate cancer in a patient; (d) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (e) selecting a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate cancer has metastatized in a patient; (f) assessing the aggressiveness or indolence of prostate cancer in a patient; (I) is also useful as a pharmacodyanamic or pharmacogenomic marker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel isolated nucleic acid molecule associated with cancerous state of prostate cells and correlating with presence of prostate cancer, useful for detecting presence of prostate cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25-MAY-2000; 2000US-0207454P.
09-JUN-2000; 2000US-0211314P.
18-JUL-2000; 2000US-0219007P.
13-DEC-2000; 2000US-0255281P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 5145 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2001-662795/76
                                                                                                              101
                                                                                                                                                                                         769
                                                                                                                                                                                                                                           709
                                                                                                                                                                                                                                                                                             649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1; Page 5388-5389; 11750pp; English
                                                                                                                                                               81
                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                   41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MILLENNIUM PREDICTIVE
  ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                   LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                     CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                         AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                         HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                         SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                           MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1408 A; 1135
                                                                                                                                                                                                                                                                                                                                                                                                                        2.03e-234
3406.00
99.85%
99.70%
99.65%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Monahan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDICINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C; 1253 G; 1346
                                                                                                                                                                                                                                                                                                                                                                                                                                   Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                (1-5145)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Η,
                                                                                                                                                                                                                                                                                                                                                                                                                          5145
663
1
1
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0 U;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ω
             160
                                     1008
                                                                                                                                         888
                                                                                                                                                                 100
                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                      40
                                                                                      948
                                                                                                               120
                                                                                                                                                                                          828
                                                                                                                                                                                                                  80
                                                                                                                                                                                                                                                                                             708
                   8
                                                 밁
                                                                  S
                                                                                                 밁
                                                                                                                     8
                                                                                                                                                   밁
                                                                                                                                                                      5
                                                                                                                                                                                                  망
                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
밁
                                                  2029
                                                                                                                                                     1909
                                                                                                                                                                                                      1849
                                                                                                                                                                                                                                                         1789
                                                                                                                                                                                                                                                                                                                                                                                                              1609
                                                                                                                                                                                                                                                                                                                                                                                                                                                              1549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1129
                                                                                                  1969
                                                                                                                                                                                                                                                                                                         1729
                                                                                                                                                                                                                                                                                                                                                           1669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1249
                                                                         481
                                                                                                                          461
                                                                                                                                                                             441
                                                                                                                                                                                                                                                                               401
                                                                                                                                                                                                                                                                                                                                  381
                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                      341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       161
                                                                                                                                                                                                     SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly 520
                                                                                                                                                                      LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                                                                                      SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                                                                                          SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                          ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                                          CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GluProValProAlaValSerGluGlyGlyGlyGlnLysSerGluThrProLeuSerProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                               SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu
                                                                                                     GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                 AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                                                                                                                                                                                                                                                                                           CCCAGCGTGCCCAGCGTGCAGCCGTTCGCTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAACCTGTCCCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                     AAGCTATGCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                              TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTG
                                                  2088
                                                                                                     2028
                                                                                                                                                      1968
                                                                                                                                                                                                       1908
                                                                                                                                                                                                                                                          1848
                                                                                                                                                                                                                                                                                                                                                                                                              1668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1368
                                                                                                                             480
                                                                                                                                                                                                                                 440
                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                           1788
                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1248
```

```
RESULT 14
ABV20978
ABV200778
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
AXX
ABV20
ABV20
AXX
ABV20
ABV20
AXX
ABV20
ABV20
AXX
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV20
ABV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           $
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    占
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                           17-FEB-2000; 2000US-0183319P.
16-MAR-2000; 2000US-0189862P.
25-MAY-2000; 2000US-0207454P.
09--UN-2000; 2000US-0211314P.
18-JUL-2000; 2000US-0219007P.
13-DEC-2000; 2000US-0255281P.
                              Claim 1; Page
                                                                                                                                                                                                                                                                                                                                                                        20-FEB-2001; 2001WO-US005171.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; prostate pharmacogenomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                WO200160860-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human prostate expression marker cDNA 20969.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABV20978
                                                 el isolated nucleic acid molecule associated with cancerous state of
state cells and correlating with presence of prostate cancer, useful
detecting presence of prostate cancer, stage of prostate cancer.
                                                                                                                                       2001-662795/76.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                         MILLENNIUM PREDICTIVE MEDICINE
                                                                                                                                                                            þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IleIleGluValSer 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             standard; cDNA; 5145 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGCAGTTTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ĊĀĠĀĀĠĊĊĀĀĠTĠĀĊĀĠĀĠĊŦĠĀĊŤĊĠĊĠĠĊĠĠĀĠĊŦĠĠĊĀŦĠĀĀĠĀĠĀĠĊĊĊĊŦŦŦĠĀĀ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ĠĊĊŦĀĊĀĠĊŦĠĊĀĠĊĊĀĠĊŦĠĊĊĊĀĊŦŦĠĊĠĠĀĢĀĊĊĀĀĠŦĊŦĀŦŦĊŦĠŦĠĊĠĊĀĠĠĊĠĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCGGATATCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                        Endege
                        3451; 11750pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cancer; cytostatic; carcinogen; pharmacodyanamic marker;
marker; gene; ss.
                                                                                                                                                                            ŏ,
                                                                                                                                                                        Monahan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2583
                                                                                                                                                                                                           INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                               ᅡ
             맑
                                      Ş
                                                                                  망
                                                                                                             δ
                                                                                                                                               밁
                                                                                                                                                                                     Ş
                                                                                                                                                                                                                              뭕
                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                뮍
                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멅
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    멅
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₫
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ю
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment & Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score:
```

```
SSSSSSSSSSSXX
                                   a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for: (a) assessing whether a patient is afflicted with prostate cancer; (b) monitoring the progression of prostate cancer in a patient; (c) assessing the efficacy of a test compound to inhibit prostate cancer in a patient; (d) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (e) selecting a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate cell carcinogenic potential of a compound; (g) determining whether prostate cancer has metastasized in a patient; (h) assessing the aggressiveness or indolence of prostate cancer in a patient; (l) is also useful as a pharmacodyanamic or pharmacogenomic marker
              Sequence 5145
  BP; 1408 A; 1135
     Ç
1253 G; 1346 Т; О U; 3
Other;
```

Percent Similarity:
Best Local Similarity:
Query Match:
DB: 2.03e-234 3406.00 99.85% 99.70% 99.65% Length:
Matches:
Conservative: Mismatches: Indels:

Scores:

US-10-029-345A-109 (1-665) x ABV20978 (1-5145)

invention relates to an isolated nucleic acid molecule (I) comprising

241 LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet

260

문

```
1489
                                                                                                                                                                                                                                                                                          2149
                                                                                                                                                                                                                                                                                                                                                                    2089
                                                                                                                                                                                                                                                                                                                                                                                                                                               2029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1309
                                                                                                                                                                                                                2209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1669
                                                                                                                                                                                                                                                                                                                              521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                       601
                                                                                                                                                                         561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          321
GlnLysProSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                     AlaTyrSerCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                             ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer
                                                                                                                                                                                                                                    SerAspIleLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                              LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                                                                                                                                                                                                                                         SerProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCAAGCGATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerLysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GATAAGGAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AspLysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGCTATGCCAGTTCTCCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LysLeuCysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SerSerSerGluAspAlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerLeuAspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGTGCCGACTCTGCTACCTCAGAGGCAGCAGGACAAAGGCCCCGTGCATCCCGCCAGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAACCTGTCCCTGCTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAAGAAAAAAAGACCTACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTTTCCACCAGCCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCCTCATCAGAAGATGCTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCCAGCGTGCCCAGCGTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTC
                                                           CTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                    2148
                                                                                                                                                                                                                                                                                                                                                                                                                                               2088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1368
                                                           2388
                                                                                                 600
                                                                                                                                       2328
                                                                                                                                                                         580
                                                                                                                                                                                                              2268
                                                                                                                                                                                                                                                    560
                                                                                                                                                                                                                                                                                          2208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       280
                       620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     500
```

음 성 음 성 음

중 유

ঠ 🔓 ঠ

B 8 B 8 B 8 B 8

 중 유

8 8 8 8 8

S

문

문

Score: Percent Similarity:

2.03e-234 3406.00 99.85%

Length: Matches: Conservative:

5145 663 1

Alignment

Scores:

Мо : 중 음 중 음

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                    17-FEB-2000; 2000US-0183319P.
16-MAR-2000; 2000US-0189862P.
25-MAY-2000; 2000US-0207454P.
09-JUN-2000; 2000US-0211314P.
18-JUL-2000; 2000US-0219007P.
13-DEC-2000; 2000US-0255281P.
                      The invention relates to an isolated nucleic acid molecule (I) comprising a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for: (a) assessing whether a patient is afflicted with prostate cancer; (b) monitoring the progression of prostate cancer in a patient; (c) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (d) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (e) selecting a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate cancer has metastazized in a patient; (d) determining whether prostate cancer has metastazized in a patient; (h) assessing the aggressiveness or indolence of prostate cancer in a patient in a patient; (l) is also useful as a pharmacodyanamic or pharmacogenomic marker
                                                                                                                                                                                                                                        Novel isolated nucleic acid molecule associated with cancerous state prostate cells and correlating with presence of prostate cancer, used for detecting presence of prostate cancer.
                                                                                                                                                                                                                                                                                                   WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; prostate pharmacogenomic
                                                                                                                                                                                                               Claim
                                                                                                                                                                                                                                                                                                                               Schlegel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20-FEB-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  23-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200160860-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABV21092,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABV21092
                                                                                                                                                                                                                                                                                                                                                           (MILL-) MILLENNIUM PREDICTIVE MEDICINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2389 CAGAAGCCAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                                   2001-662795/76.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                              1; Page 3485; 11750pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              prostate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LysGlnPheLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                                                                                                                               ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IleIleGluValSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCATTGAGGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                              Endege
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2001WO-US005171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first
 BP; 1408 A; 1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              expression marker cDNA 21083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cancer; cytostatic; carcinogen; pharmacodyanamic marker;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    marker;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cdna;
                                                                                                                                                                                                                                                                                                                               ģ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    665
                                                                                                                                                                                                                                                                                                                               Monahan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ₽P
  ü
  1253
  G; 1346
  T; 0 U; 3
  Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2448
```

Qy 321 GluProValProAlaValSerGluGlyGlnLysSerGluThrProLeuSerProPro 340	Qy 301 GlnThrGlyAlaSerGlyProLysSerLysLeuLeuHisLeuGluLysProAsn 320	Qy 281 IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn 300	Qy 261 LysargMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr 280	Qy 241 LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaTleAlaTyrIleMet 260	Qy 221 ProTrpLeuAspLysSerValAspPhelleGluLysAlaLysAlaSerAsnGlyCysVal 240	Qy 201 IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu 220	9 12	Qy 161 ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180	Qy 141 ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr 160	Qy 121 LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer 140	Qy 101 AspCysDheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu 120	OY 81 CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100	Oy 61 AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp 80	OY 41 HisileLeuGluAlaileAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln 60	Qy 21 SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer 40	Qy 1 MetAlaHisGluMetIleGlyThrGlnTleValThrGluArgLeuValAlaLeuLeuGlu 20	Best Local Similarity: 99.70% Mismatches: 1 Query Match: 99.65% Indels: 0 DB: 5 Gaps: 0 US-10-029-345A-109 (1-665) x ABV21092 (1-5145)
Search completed: June 21, 2004, 21:32:57 Job time : 776.833 secs	Db 2569 ATCATTGAGGTCTCC 2583	2509 AGGTCACGGGAAGAGCTGGGGAAAGTGGGCAGTCTAGCTTTTCGGGCAGCATGGAA 2	621 LygGlnpheLygArgArgSerCygGlnMetGlupheGlyGluSerIleMetS	601 GlnLysbroSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu 6	581 AlaTyrserCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg	561 ThrGluSerSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer	541 SerAspileLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPhaAla 5	2149 CTTTCCACCAGCAGCACCTCACGAAGTCTGCTGGCCTGAGGCCTTAAGGGCTGGCAC	501 SerProLeuHisargSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly	481 SerlysArgLeuHisSerValArgThrSerSerGlyThrAla61nArgSerLeuLeu	1969 GATAAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG	441 LysleuCysGlnPheSerProvalGlnGlnueUserGlnGlnUnrFroGlnUnrSerPro	421 SerserserGlunspalaleuGluTyrTyrLystystystystystroserinrIntleumspglyIntasn 4	401 SerieuAsplielysServalSerryrSera_aServetAlan_aServeuHiscayPrne	381 SergiyleuHisleuSerAlaAspArgleuGlikaspSerAsnlysiseuhysArgSerPne 4	1669 CCCAGCGTGCCAGCGTGCAGCCGTTAGAGGACAGCCCGCTGGTACAGGCCTC 1	341 CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVa

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                          Database
                                                                                                                                                                                                                                                                                                                                                                                                                           Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                           Pred. No.
score grea
and is der
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 贸명
                                                                                                                                                                                                                                              Score
                                                                                                                                                                    3406
3406
3406
                                                                                                                                                                                                                           3418
                                                                                                                                                           3406
                                                                                                                                                                                                3406
                                                                                                                                                                                                          3406
                                                                                                                                                                                                                                                                                                                                                                                                                                                               seq
                                                                                                                                                                                                                                                                                           greater t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein search, using
                                                                                                                                                                                                                                                                                                                                                                                                                                                              length:
                                                                                                                                                                                                                                             Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-029-345A-109
3418
                                                                                                                                                                                                                                                                                          is the number of results predicted by chance to have a ster than or equal to the score of the result being printed, rived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BLOSUM62
Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                June 21, 2004, 13:10:27; Search time 74.2709 Seconds (without alignments) 2529.847 Million cell updates/sec
                                                                                                     A_Geneseq_29Jan04:*
1: geneseqp1980s.*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1586107 seqs, 282547505 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MAHEMIGTQIVTERLVALLE.....LGKVGSQSSFSGSMEIIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Copyright
                                                                                                                                                                                                                                                                                                                             geneseqp190s:*
geneseqp200s:*
geneseqp2001s:*
geneseqp2001s:*
geneseqp2001as:*
geneseqp2003as:*
geneseqp2003bs:*
                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                20000000000
665
                                                                                                                                                                                                                          665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GenCore version 5.1.6 (c) 1993 - 2004 Compugen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gapext 0.5
                                                                                                                                                                                                                                              В
                                                                                                                                                          AAU09946
AAU75789
ABB97946
                                                                                                                                                                                      ABR52381
ABR52407
AAE04834
AAU09016
AAU79156
        ABR52425
ABR52382
ABR52350
ABG73440
ABG52351
                                                      ABR52424
ABR52385
AAB20325
AAM25744
AAU79159
                                                                                                                       ADA54744
AAU79161
                                                                                                                                                                                                                                              Ħ
                                                                                                      ABR52352
                                                                                                              AAU79162
                                                                                                                                           ABB97291
                                                                                                                                                   AAU79929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WB
                                                                                                                                                                                                                                                                          SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1586107
                                                                                                                             Aae04834 Human GGP
Aau09016 Human dua
Aau79156 Human dua
Aau79156 Human dua
Aau09946 Protein s
Aau75789 Human pro
Abb97946 Human pro
Abb97291 Novel hum
Ada54744 Human pro
        Aau79161
Aau79162
Abr52352
Abr52424
Abr52385
Aabr25744
Aab25744
Aau79159
Abr52425
Abr52425
Abr52380
Abr52380
Abr52380
                                                                                                                                                                                                                  Abr52381 Protein
Abr52407 Protein
                                                                                                                                                                                                                                              Description
                                   Human pro
Human pro
Human dua
Protein r
Protein r
                                                                                 Protein r
Protein r
Protein r
Protein r
Human dua
Protein r
Dual-spec
                                                                                                                       Human
                                                                                                             Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              665
                                                                                                            pro
dua
hum
pro
dua
dua
```

4 И	44	43	42	41	40	39	38	37	36	35 ·	34	33	32	31	30	29	28	27	26
453	453	453	465.5	465.5	466.5	469	469	469	469	469	471.5	471.5	476	654.5	654.5	716	741	742.5	977.5
		13.3			13.6		13.7		13.7	13.7	13.8	13.8	13.9	19.1	19.1	20.9	21.7	21.7	28.6
394	394	394	381	381	381	482	482	482	482	444	381	381	482	170	170	140	140	375	579
σ	ທ	4	7	7	σ	ຫ	ຫ	w	w	σ	σ	տ	4	4.	4.	v	σı	4	7
ABU69502	AAU85530	AAB76875	ADE62625	ADD48300	ABP57087	ABJ05600	ABR52384	AAB29641	AAB18655	AA020515	ABP96803	ABR52383	AAB73225	AAE06780	AAB66436	ABR52405	ABR52404	ABG07902	ADE08458
Abu69502	Aau85530	Aab76875	Ade62625	Add48300	Abp57087	Abj05600	Abr52384	Aab29641	Aab18655	Aao20515			Aab73225	Aae06780		Abr 52405	Abr52404		Ade08458
Humna STY	STY8 Lung	Human lun	Rat Prote	Rat Prote	Mouse MKP	Breast ca	Protein r	Human dua	A human r	Protein o	Human COP	Protein r	Human pho	Human dua	Human MAP	Peptide r	Peptide r	Novel hum	Novel pro

ALIGNMENTS

19-JUN-2003

(first entry)

ABR52381;

ABR52381 standard;

protein;

665

₿

Protein relating to the invention SEQ ID NO: 109.

```
RESULT 1
ABR52381
ID ABR55
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX ABR5
XX 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Jackson DG,
Siemers N,
Krystek S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         antiproliferative; hepatotropic; nephrotropic; antiarthritic; antipsoriatic; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart defect; the failure cancer: human; mouse; yeast; rat; fruitfly.
The invention relates to a novel isolated nucleic acid comprising a polynucleotide having a nucleotide sequence selected from 40 polynucleotides fully defined in the specification. The polynucleotide of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20-DEC-2000; 2000US-0256868P.
30-MAR-2001; 2001US-0280186P.
01-MAY-2001; 2001US-0287735P.
05-UUN-2001; 2001US-0295848P.
25-UUN-2001; 2001US-0300465P.
                                                                                                                                                                                                                      Novel polynucleotides encoding human phosphatase polypeptides useful the prevention or treatment of e.g. proliferative and cardiovascular disorders.
                                                                                                                                                                                                                                                                                                                                                                  WPI; 2002-599721/64.
N-PSDB; ACC60559.
                                                                                                                                                   Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20-DEC-2001; 2001WO-US050459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25-JUL-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200257460-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (BRIM ) BRISTOL-MYERS SQUIBB CO
                                                                                                                                               <u>ა</u>
                                                                                                                                               Fig 12; 801pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Feder J, Nelson T,
Bol D, Schieven G,
Mcatee P, Suchard S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mintier G, Ramanathan Finger J, Todderud CG, Banas D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C, Lee L;
Bassolino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ö
                                                                                                                                                                                                                                                                                                  in
```

Matches

665;

61

Sequence 665

mouse; yeast; rat; fruitfly.

ŏ:

```
ABR52407 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         the invention has antiproliferative, hepatotropic, nephrotropic, antiarthritic, antipsoriatic, cardiant, and cytostatic activity. The polynucleotide may have a use in gene therapy. A polynucleotide or ameliorating a medical condition, e.g. a proliferative disorder. They are disorders including arthritis and psoriasis, cardiovascular disorders such as congenital heart defects and congestive heart failure, and condition or susceptibility to a condition in a subject. The present sequence is used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                      QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                               QKPSDRADSRRSWHEESPFEKQFKRRSCOMEFGESINSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                          SDÍLAÞÓTSTÞSLTSSWYÞATESSHFYSASAÍYGGSASYSAYSCSOLÞTCGDOVYSVRRR
                                                                                                                                                                                                                                                              SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                SKRLHSVRTSSSGTAQRSLLSPLHRSGS
                                                                                                                                                                                                                                                                                                                          SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                  ŚŚŚĘDALEYYKPŚTTLDGTNKLCQPŚPVQELŚĘQTPETŚPDKEBAŚIPKKLQTARPSDŚQ
                                                                                                                                                                                                                                                                                                                                                                                        SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                PSVPŠVQPŠLLEDSPLVQALSGLHLSADRLEDSNKLKRŠFŠLDIKSVŠYŠASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                    PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSBAAGGRPVHPASV 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LVHCLÁGISRSATIÁIAYÍMKRMDMSLDBAYRFVKBKRÞTISÞNENFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QTGASGÞKSKLKLLHLEKÞNEÞVÞÁVSEGGQKSETÞLSÞÞCAÐSATSBÁAGQRÞVHÞÁSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRDTISDNENFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | QQNGIGYVLNASYTCPKPDF1PESHPLRVPVNDSPCEKILPWLDKSVDF1EKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 dkylitrelionsakhkydidcsokyvyydossodyaslssdcflityllokleksfasyhl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QQNGIGYVLNAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LAGGFĀBĒŠRĊĒÞĠĹĊĒĠĶSTĻVĒŤĊISQĒĊĻĒVĀNĪĠĒTRĪĻĒNĻYLĠĊQRĪVĹNĶĒLĪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DKVLITELIQHSAKHKVDIDCSQKVVVXDQSSQDVASLSSDCPLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MAHEMIGTQIVTERLVALLESGTEKVLLIDSRÞFVEYNTSHILEAININGSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                              665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ä
                                                   protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YTCPKPDFÍÞESHFLRVÞVNDSFCEKILÞWLDKSVDFÍEKÁKÁSNGCV
                                                  665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
                                                  ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 3418; DB 5;
Pred. No. 3.1e-257;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                             660
                                                                                                                                                                                                                                           600
                                                                                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                밁
                                             Ş
                                                                              밁
                                                                                                     Ş
                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                     5
                                                                                                                                                                                                                                                                           The invention relates to a novel isolated nucleic acid comprising a CC polynucleotide having a nucleotide sequence selected from 40 CC polynucleotides fully defined in the specification. The polynucleotide of CC the invention has antiproliferative, hepatocropic, nephrotropic, antiarthritic, antipsoriatic, cardiant, and cytostatic activity. The CC polynucleotide may have a use in gene therapy. A polynucleotide or CC eneliorating a medical condition, e.g. a proliferative disorder. They are CC also useful for treating e.g. liver disease, renal failure, immunological CC condition or susceptibility to a condition in a subject. The pathon of condition or susceptibility to a condition in a subject. The present cc sequence is used in the exemplification of the invention
                                                                                                                                                                                                     Query Match
Best Local S
Matches 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20-DEC-2000; 2000US-0256868P.
30-MAR-2001; 2001US-0280186P.
01-MAY-2001; 2001US-0287735P.
05-JUN-2001; 2001US-025648P.
25-JUN-2001; 2001US-0300465P.
                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Jackson
Siemers
Krystek
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novel polynucleotides encoding the prevention or treatment of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (BRIM ) BRISTOL-MYERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           antipeoriative; nepatotropic; nephrotropic; antiarthritic; antipeoriatic; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart defect; congestive heart failure; cancer; human; mouse; yeast; rat; fruitfly.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20-DEC-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO200257460-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              antiproliferative;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protein relating to the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19-JUN-2003 (first
               121
                                             121
                                                                            61
                                                                                                                                                                                                     665;
                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2002-599721/64.
DB; ACC60572.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sapiens.
                                                                                                                      Similarity
LAGGPAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                  LAGGEAEFSRCFPGLCEGKSTLVPTCISQPCLEVANIGPTRILPNLYLGCQRDVLNKELI
                                                          DKVLÍTÉLIQHSÁKHKVDÍDCSQKVVVÝDQSSQDVASLSSDČFLTVLLGKLEKSFNSVHL
                                                                              DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S, NG,
                                                                                                                                                                                                                                                                 665
                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                               ĀΆ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fig 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Feder J, Nelson T, Mintier G, Ramanathan
Bol D, Schieven G, Finger J, Todderud CG,
Mcatee P, Suchard S, Banas D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2001WO-US050459
                                                                                                                                                                                                               100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        801pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         hepatotropic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SQUIBB
                                                                                                                                                                                              0;
                                                                                                                                                                                         Score 3418; DB 5;
Pred. No. 3.1e-257;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  human
e.g. p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               n phosphatase polypeptides useful proliferative and cardiovascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQ ID
```

C, Lee L;
Bassolino

Ď,

'n

361

361 301 301 241 241

181 121 121 61

421

RESULT 2
ABR52407
ID ABR5
XX
AC ABR5
XX

181

QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV

180 180

120

120

60 60 Indels Length

0;

Gaps

ø

665;

Ś 밁 δ 뮰 Ś 뮍 Ş B Ş В Ś 문 Ś 밁 Ş 밁 S 뭐 Ş 멼 Ś 밁 Ś

661 601 601 541 541 481 481 421

IIEVS

```
RRESULT 3
AARO4834
ID AARO4834
AARO4834
AARO4834
AC AARO
XX AARO
XX Huma
DE Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Hu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ર્ફ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                  immuné-related disorder; ocular disease; organ transplant rejection; infection; diabetes; pain; sexual dysfunction; Alzheimer's disease; metabolic disorder; haematopoietic cancer; mod disorder; cardiant; Parkinson's disease; multiple sclerosis; amyotrophic lateral sclerosis; cardiovascular disease; brain; neuronal-associated disease; dyskinesia; attention disorder; cognition disorder; psychotic disorder; cytostatic; neuroprotective; antibacterial; vulnerary; tranquilliser; antisethmatic; hypotensive; immunosuppressive; antipsoriatic; analgesic; hypertensive; antifungal; dual specificity phosphatase; DSP; MAP kinase phosphatase; MKP; migraine; chromosome 12p11.1-p12.1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAE04834 standard; protein;
                          21-DEC-2000; 2000WO-US034736
                                                                                                                                                                                                                                  Domain
                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                    Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SGP002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SGP002 phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ITEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QKPSDRADSRRSWHEESFFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PSVPSVQPSILEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OONGIGYVLNASYTCPKPDPIPESHPLRVPVNDSPCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QKPSDRADSRRSWHEESPFEKQFKRRSCOMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 phosphatase polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   665
                                                                                                                                                                                                 158. .29
/label=
                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                   /label= Catalytic_domain
                                                                                                                                                                                            Phosphatase_domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      polypeptide; phosphatase-related disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
```

```
The present invention relates to phosphatase polypeptides, nucleotide CC sequences encoding them, as well as various products and methods useful CC for the diagnosis and treatment of various phosphatase-related diseases CC and conditions. Substance that modulates the activity of phosphatase CC polypeptide is used to treat immune-related diseases and disorders, CC cardiovascular disease, brain or neuronal-associated diseases and CC metabolic disorders, including cancers of tissues, cancers of Alzheimer's disease, Parkinson's disease, multiple sclerosis, amyotrophic CC lateral sclerosis, viral infections, infections caused by prions, CC lateral sclerosis, viral infections, infections caused by prions, CC dysfunction, mood disorders, attention disorders, cognition disorders, composition disorders, multiple sclerosis, bain, sexual CC dysfunction, mood disorders, attention disorders, neurological disorders, CC dyskinesias and organ transplant rejection. The present amino acid compositied as dual specificity phosphatase (DSP) and MAP kinase CC phosphatase (MKP). SGP002 gene maps to chromosomal position 12p11.1-p12.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Plowman (
Hill RJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21-DEC-1999;
28-DEC-1999;
25-JAN-2000;
31-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                Novel phosphatase polypeptide useful for treating cancers, immune-diseases and disorders, cardiovascular disease, brain or neuronal-associated diseases and metabolic disorders.
Sequence
                                                                                                                                                                                                                                                                                                                                                                 Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (SUGE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2001-418058/44.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 GD, Fu.
T. Flanagan !
   665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; 99US-0173255P.
; 99US-0175766P.
; 2000US-0178078P.
; 2000US-0179301P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Martinez
lanagan P;
AA,
                                                                                                                                                                                                                                                                                                                                                               2; 186pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ₽,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Whyte
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ū
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            る
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Manning G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sudarsanam
                                                                                                                                                                                                                                                                                                                                                                                                                                    immune-related
```

```
XX
SQ Sequence 665 AA;
SQ Sequence 665 AA;
SQ Sequence 665 AA;
Query Match
Best Local Similarity 99.7%; Pred. No. 2.7e-256;
Matches 663; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
```

```
맑
                                                                  .2
                                                                                                                            δ
                                                                                                                                                            밁
                                                                                                                                                                                      S
                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                     맑
                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                     밁
                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                               吊
                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                     301
                                                                                                                                                              241
                  421
                                             361
                                                                                                                                 301
                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                           663;
                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                     61
SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                           LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                       QQNGIGYYLNASYTCPKPDPIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                             LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                                                                                                                                                                         DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                  MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                            PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                              PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                    DKVLITELIQHSAKHKVDIDCSQKVVVYXDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                  MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                 QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                               LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                      QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                        120
                                                                          420
                                                                                                       360
                                                                                                                                  360
                                                                                                                                                               300
                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                   60
                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
```

```
RESULT 4
AAU09016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
The invention relates to two novel human dual specificity phosphatases designated 21117 and 38692, the nucleic acids encoding them (including fragments, allelic variants, their complements or nucleic acids that hybridise to them) and antibodies raised against the proteins. The antibody is useful for detecting the presence of the polypeptide, and the
                                                            Claim 9; Fig
                                                                               O.F
                                                                                      New human dual
                                                                                                       N-PSDB;
                                                                                                                                 Meyers
                                                                                                                                             (MILL-) MILLENNIUM PHARM INC
                                                                                                                                                                              23-MAR-2001; 2001WO-US009477
                                                                                                                                                                 24-MAR-2000;
                                                                                                                                                                                                 04-OCT-2001.
                                                                                                                                                                                                                 WO200173059-A2
                                                                                                                                                                                                                                          Active-site
                                                                                                                                                                                                                                                                                                                               Human; dual specificity phosphatase 21117; hepatotropic; cytostatic; hematopoietic disorder; autoimmune disorder; diabetes mellitus; rheumatoid arthritis; multiple sclerosis; Crohn's disease; liver disorder; erythroid associated disorder; haemolytic anaemia; cellular proliferative; differentiative disorder; leukaemia; acute myeloid leukaemia; carcinoma; sarcoma; metastatic cancer;
                                                                                                                                                                                                                                                                     Domain
                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                      Domain
                                                                                                                                                                                                                                                                                                                             immunogen.
                                                                                                                                                                                                                                                                                                                                                                                                Human
                                                                                                                                                                                                                                                                                                                                                                                                               18-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                           AAU09016 standard; protein;
                                                                             disease and
                                                                                                                                                                                                                                                                                                                                                                                                                               AAU09016;
                                                                                                            2001-611635/70.
                                                                                                      AAS14639
                                                                                                                                                                                                                                                                                                                                                                                               dual
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QKPSDRADSRRSWHEESDFEKQFKRRSCOMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OKPSDRADSRRSWHEESPFEKOFKERSCOMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SDÍLAÞÓTSTÞSLTSSWYÞÁTESSHFYSÁSAÍYGGSÁSYSÁYSCSÓLÞTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SDILAPOTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ŚKRLHŚVRTSŚSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNVHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                              1;
                                                                                                                                                                                                                                                                                                                                                                                         specificity phosphatase 21117.
                                                                                                                                                             2000US-0191858P
                                                                      specificity polypeptides and nucleic treatment of e.g. liver disorders.
                                                          143pp;
                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                158. .297

(label= Catalytic_domain

/note= "Dal specificity phosphatase catalytic domain"

242. .254

/label= Tyrosine_specific_protein_phosphatase_active_s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         665
                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                          /label=
                                                           English.
                                                                                                                                                                                                                      Tyrosine_specific_protein_phosphatase_active_site
                                                                                                                                                                                                                                                                     Rhodanese-like domain
                                                                                                                                                                                                                                                                                                                                                                                                                                              665
                                                                                                                                                                                                                                                                                                                                                                                                                                            ₿
                                                                                                                                                                                                                                                                                                                             metastatic cancer;
                                                                               acids
                                                                             for diagnosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
AAU79156
                                               Ś
                                                                 밁
                                                                              δ
                                                                                                  В
                                                                                                              Ş
                                                                                                                               Дb
                                                                                                                                                5
                                                                                                                                                               Ъ
                                                                                                                                                                               Ś
                                                                                                                                                                                                    뫄
                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                        뮍
                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                        Дb
                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                661
                                              661
                                                                109
                                                                                109
                                                                                                  541
                                                                                                                 541
                                                                                                                                  481
                                                                                                                                                  481
                                                                                                                                                                   421
                                                                                                                                                                                   421
                                                                                                                                                                                                    361
                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                         663;
                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                         61
                                              IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                         ш
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           665
                                              665
                               665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AA;
```

```
cc nucleic acid fragments are useful for detecting the presence of the nucleic acid, for diagnosing disease. Agents (e.g. the antibody and cc antisense sequences) are useful for modulating the activity or expression of the polypeptide/nucleic acid, useful for the treatment of e.g. thematopoietic disorders, autoimmune disorders (e.g. diabetes mellitus, cc rheumatoid arthritis, multiple sclerosis, Crohn's disease and many others cd disorders (e.g. haemolytic anaemia), cellular proliferative of cd disorders (e.g. haemolytic anaemia) cellular proliferative of carcinomas, sarcomas, metastatic cancers. Agents modulating 21117 and cm gration or differentiation of a 38692 are also useful for modulating the proliferation, survival, cm gration or differentiation of a 38692 or 21117-expressing cell. The cc agents. The present sequence represents the dual specificity phosphatase cc 21117
OKPSDRADSRRSWHEESPFEKOFKRRSCOMEFGESIMSENRSREELGKVGSOSSFSGSME
                             OKPSDRADSRRSWHEESPFEKOFKRRSCOMEFGESIMSENRSREELGKVGSOSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILBAININCSKLMKRRLQQ
                                                                                   SDÍLAÞÓTSTÞSLÍTSSWÝFATESSHFYSASAÍYGGSÁSYSAÝSCSQLÞTCGDQVÝSVRRR
                                                                                                              SDILAPOTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQYYSVRRR
                                                                                                                                                                   skríhsvrtásásgítágrsílisplhrsgsvednyhtsfleglstsóghlítkságlglkgwh
                                                                                                                                                                                               SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                      SŚŚEDALEYYKPŚTTLDGTNKLCOPSPVOBLSEOTPETSPDKEEASIPKKLOTARPŚDSO
                                                                                                                                                                                                                                                                                  SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                            PŚVPŚVQPŚLLEDŚPLVQALŚGLHLŚADRLEDŚNKLKRŚPŚLDIKŚVŚYŚAŚMAAŚLHGF
                                                                                                                                                                                                                                                                                                                                                                       PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                          QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LVHCLAGIŚRŚATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNENFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNENELGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QQNGĬGYVĹNASNTCÞŔÞĎÐÍÞÉSHFĹŔVÞVNDSFĆEKÍĹÞWĹĎŔŚVĎÐÍBKÁKÁSNĠĊV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LAGGFĀRĒSRČĒÞGLCĒGKSTLVĒTCĪSQĒCLĒVĀNĪGĒTRĪLĒNLYLGCQRDVLNKĒLM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MAHEMIGTOI VTERLVALLESGTEKVILI IDSR PFVEYNTSHILEAININGSKLMKRRLOO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 3406; D
Pred. No. 2.7e
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 4;
.7e-256;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                         660
  660
                                                                                   600
                                                                                                                            600
                                                                                                                                                                   540
                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
```

Ú

```
S
밁
                                                          밁
                                                                                ঠ
                                                                                                                                                                                                     CC The present invention relates to a new polypeptide, DSP-16, having a 665 CC amino acid sequence, given in the specification, or a variant having at CC least 50 % identical residues, which retains the ability to CC dephosphorylate an activated mitogen-activated protein (MAP) kinase. The CC convention can be used for identifying agents which modulate DSP-16 CC activity, for modulation of a proliferative response in a cell, survival CC cell, or differentiation of a cell. The cell displays contact CC inhibition of cell growth or anchorage independent growth and may display CC altered intercellular adhesion. The agent may modulate apoptosis, or the CC cell cycle. The identified modulators can be used to treat Duchenne CC muscular dystrophy, cancer, graft-versus-host disease, autonume CC diseases, allergies, metabolic diseases, abnormal cell growth, abnormal CC cell proliferation, and cell cycle abnormalities. The present amino acid CC sequence represents the human dual-specificity phosphatese-3 (DSP-16) CC protein of the invention. This sequence is encoded by the human DSP-16 CC gene located on chromosome 12p
                                                                                                                    Query Match
Best Local Similarity
Matches 663; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; dual-specificity phosphatase-3; DSP-16; autoimmune disease; mitogen-activated protein kinase; MAP; Duchenne muscular dystrophy; cancer; graft-versus-host disease; allergy; metabolic disease; abnormal cell growth; abnormal cell proliferation; contact inhibition; cell cycle abnormality; anchorage independent cell growth; apoptosis; intercellular adhesion; DSP-16 modulator; chromosome 12p.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New DSP-16 polypeptide, useful for identifying modulators activity, which can be used in the treatment of disorders Duchenne muscular dystrophy, or cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Key
                                                                                                                                                                              Sequence 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1; Fig 2; 87pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                04-APR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Luche
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-SEP-2000; 2000US-0235487P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 25-SEP-2001; 2001WO-US030124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200226997-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAU79156 standard; protein; 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (CEPT-) CEPTYR INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2002-315802/35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        dual-specificity phosphatase-3 (DSP-16) protein.
61
                            61
                                                           _
                                                                                         μ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABK47596
DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                  DKYLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                           MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                          MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wei B;
                                                                                                                     Conservative
                                                                                                                                                                               ۶
۲
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers 242. .251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /label= Active_site_domain
                                                                                                                                  99.6%;
                                                                                                                  Score 3406; DB 5;
Pred. No. 2.7e-256;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₽
                                                                                                                                              Length
                                                                                                                     Indels
                                                                                                                                                 665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of it
                                                                                                                    0;
                                                                                                                    Gaps
                             120
                                                          60
120
                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             á
```

```
ARESULT 6
ANU09946
ID ANU0
XX ANU0
XX ANU0
XX ANU0
XX Prot
XX Prot
XX Huma
XW neur
XW neur
XW Nechi
XW Oste
XX Homc
XX Homc
XX IO-A
XX IO-A
XX IO-A
XX WPI;
DR N-Pg
XX WPI;
XX WPI;
XX WPI;
                                                                                                                                                                                                                                                                                                                               Human; dual specificity phosphatase; DUSP-10; cancer; epilepsy; stroke; neuronal degeneration syndrome; Alzheimer's disease; depression; schizophrenia; asthma; immune disorder; inflammatory process; arthritis
                                                                                                                                                                        06-APR-2001; 2001WO-EP003966
                                                                                                                                                                                                            18-OCT-2001
                                                                                                                                                                                                                                            WO200177340-A1
                                                                                                                                                                                                                                                                             Homo sapiens.
                                                                                                                                                                                                                                                                                                               osteoporosis; diabetes.
                                                                                                                                                                                                                                                                                                                             schizophrenia; asthma; immune disorder;
                                                                                                                                                                                                                                                                                                                                                                                                 Protein sequence of human (dual specificity phosphatase) DUSP-10
                                                                                                                                                                                                                                                                                                                                                                                                                                    18-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAU09946;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAU09946 standard; protein;
                                                                                                                                        10-APR-2000; 2000EP-00107143
                                                                                                    (MERE ) MERCK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SDILAPOTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SKRLHSVRTSSSGTAORSLLSPLHRSGSVEDNYHTSFLFGLSTSOOHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM 180
                                                                                                                                                                                                                                                                                                                                                                                                                                    (first
                                                                                                        PATENT GMBH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            665
                                                                                                                                                                                                                                                                                                                                                                                                                                    entry)
                                                                                                                                                                                                                                                                                                                                 arthritie;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
```

WPI; 2002-010917/01 N-PSDB; AAS15768.

```
Page
```

```
CC The present invention relates to a new isolated dual specificity CC phosphatase (DUSP10) polypeptide, comprising a 665 residue amino acid CC sequence that is fully defined in the specification. The invention also CC in the specification, and a sequence having at least 95 % identity to the CC in the specification, and a sequence having at least 95 % identity to the CC polypeptide, or fragments or variants of DUSP-10. The invention is useful CC prostate cancer, metastasis of tumour cells, neo-angiogenesis, epilepsy, CC stroke, neuronal degeneration syndromes, Alzheimer's disease, depression, CC stroke, neuronal degeneration syndromes, Alzheimer's disease, depression, CC inflammatory processes e.g. arthritis, bowel disease, type I diabetes, CC osteoporosis, diabetes and diabetes associated diseases. The molecules of the invention are also useful as vaccines for inducing immunological CC agonistic or antagonistic compounds. Other uses of the invention include CC identifying membrane bound or soluble receptors, as a diagnostic reagent, CC expression studies. The present sequence represents the dual specificity xx
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 663;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cancers, epilepsy, disease, depression
                                                                                            541
                                                                                                                                481
                                                                                                                                                                 481
                                                                                                                                                                                                      421
                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                           SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                          SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          H
                                   SDILAPQTSTPSÍTSSMYFÁTESSHFÝSÁSÁÍYGGSÁSYSÁÝSCSÓLÞŤCGDÓVÝSVRRR
                                                                                                                                   SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  dual specificity phosphatase polypeptides useful for treating rs, epilepsy, stroke, neuronal degeneration syndromes, Alzheimer's e, depression, schizophrenia, asthma and immune disorders.
                                                                                                                                                                                                          SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSBDKEBASIPKKLQTARPSDSQ
                                                                                                                                                                                 sséedaleyykésttidginkilcófspvóelseótéstsédkéeasífekklótarésdsó
                                                                                                                                                                                                                                                        PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                               PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                               ÓTGASGÞKSKLKLLHLEKÞNEÞVÞÁVSEGGOKSETÞLSÞÞCAÐSÁTSBÁAGORÞVHÞÁSV
                                                                                                                                                                                                                                                                                                                                                      QTGASGPKSKLKLLHLEKÞNEÞVÞAVSEGGQKSETÞLSÞÞCADSATSEAAGQRÞVHÞASV
                                                                                                                                                                                                                                                                                                                                                                                                     LVHCLĀGĪŠRŠĀTĪĀĪĀYĪNKRMDMŠLDĒĀYRFVKĒKRPTĪŠPNFNFLGQLLDYEKKĪKN
                                                                                                                                                                                                                                                                                                                                                                                                                           LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFYKEKRPTISBNFNBLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QQNGIGYÝLNASNTCPKÞÐFÍ ÞESHFLRVÞVNDSFCEKÍ LÞWLÐKSVÐFÍ EKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ĹAĠĠŖĀĖŖŚŖĆŖŖĠĹĊĔĠĸŚŢĹVŖŢĊĬŚQŖĊĹŖŶĀŇĬĠŖŢŖĬĹŖŃĹŶĹĠĊQŖĎVĹŊĸĸĿſĸ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DKVL1 TEL1 () HSAKHKVDÍ DCS OKVVVÝDOS SÓDVÁŠLSS DČELTÝLL GKLEKSENSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DKVLITBLIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MAHEMIGTÓIVTÉRLVÁLLESGTÉKVLLIDSRÞFVÉYNTSHILEÁININGSKLMKRRLQÓ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILBAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ĀΑ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99.6%;
99.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 3406; DB 5;
Pred. No. 2.7e-256;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                     600
                                                                                                          540
                                                                                                                                             540
                                                                                                                                                                                   480
                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
```

Ş

Ś 뭥 Ś 멍 Ś В Ş 밁 Ś Ъ Ś В 5 뮍 Ś 밁 Ş 밁 Ś 밁

660

New protein phosphatases, useful for diagnosing, treating or preventing immune system disorders (e.g. Crohn's disease), neurological disorders (e.g. Parkinson's disease), or cell proliferative disorders (e.g. cancers).

```
RESULT 7
RAWJ5789
ID AAU7:
AC AAU7:
AC AAU7:
AC AAU7:
AC AAU7
XX OR-M
XX Huma:
XW Huma:
XW Crchin
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW Ccell
XW C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                     28-JUL-2000; 2000US-0221679P.
03-AUG-2000; 2000US-0223272P.
10-AUG-2000; 2000US-0224309P.
18-AUG-2000; 2000US-0226728P.
30-AUG-2000; 2000US-022924P.
08-SEP-2000; 2000US-0231366P.
                                                                                                                                                                                          Tang YT, El
Stewart EA,
Tribouley CM
                                                                                                                   N-PSDB;
                                                                                                                                                                                                                                                                        (INCY-)
                                                                                                                                                                                                                                                                                                                                                                                                                                           26-JUL-2001; 2001WO-US023716.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200210363-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             acquired immunodeficiency syndrome; thymic hypoplasia; anaemia; asthma; Crohn's disease; neurological disorder; epilepsy; Huntington's disease; dementia; Parkinson's disease; developmental disorder; Down's syndrome;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cell proliferative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human; protein phosphatase 7; PP7; acquired immunodeficiency syndrome;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        melanoma; myeloma sarcoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAU75789;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    08-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAU75789
                                                                                                               2002-188735/24.
DB; ABK14474.
                                                                                                                                                                                                                                                                    INCYTE GENOMICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661 IIEVS 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            109
                                                                                                                                                                                              3
                                                                                                                                                                                                                                Elliott VS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             immunodeficiency syndrome;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IIEVS
                                                                                                                                                                                    Gandhi AR, Pa
M, Griffin JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                phosphatase 7 (PP7) protein sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note= "Tyrosine specific protein phosphatases
site tyr_phosphatase.prf"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           note= "Tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /label= Cata
/note= "Dual
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /label=_Rhodanese_like_domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       note≃
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            disorder; cancer; adenocarcinoma; leukaemia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      . 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .297
                                                                                                                                                                                                                          Ramkumar J,
                                                                                                                                                                                  Patterson
JA, Baughn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "VH1-type dual specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Catalytic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          lytic_domain_DSPc
specificity_phosp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              specific protein phosphatases"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            phosphatase"
                                                                                                                                                                                  ij,
                                                                                                                                                                                  Yao MG,
C, Lee E
MR, Yue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           immune system
; thymic hypopl
                                                                                                                                                                                  EA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             phosphatase"
                                                                                                                                                                                            Burford N, Wan
A, Hafalia AJA,
                                                                                                                                                                              Warren
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        disorder; AIDS;
                                                                                                                                                                              BA,
                                                                                                                                                                                                               Wang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 phosphatase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   active
                                                                                                                                                                           DAM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         660
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8X2222222222222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Simi
Matches 663;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present invention relates to a new polypeptide, a naturally occurring amino acid sequence at least 95 % identical to it, a biologically active fragment of it or an immunogenic fragment of it. The polypeptides, polynucleotides, agonists and antagonists are useful for diagnosing, treating or preventing disorders associated with aberrant expression of protein phosphatases (PP), particularly immune system disorders e.g. acquired immunodeficiency syndrome (AIDS), thymic hypoplasia, anaemia, asthma or Crohn's disease, neurological disorders e.g. epilepsy. Huntington's disease, dementia or Parkinson's disease, developmental disorders e.g. Down's syndrome, or cell proliferative disorders e.g. cancers including adenocarcinoma, leakaemia, lymphoma, melanoma, myeloma or sarcoma. The present amino acid sequence represents human protein phosphatases 7 (PPT) which is one of several human protein phosphatases (PPT) which is one of several human protein phosphatases (PPT) which is one of several human protein phosphatases (PPT) which is one of several human protein phosphatases (PPT) which is one of several human protein phosphatases (PPT) which is one of several human protein phosphatases (PPT) which is one of several human protein phosphatases (PPT) which is one of several human protein phosphatases (PPT) which is one of several human protein phosphatases (PPT) which is one of several human protein phosphatases (PPT) which is one of several human protein phosphatases (PPT) which is one of several human protein phosphatases (PPT) which is one of several human protein phosphatases (PPT) which is one of several human protein phosphatases (PPT) which is one of several human protein phosphatases (PPT) which is one of several human protein phosphatases (PPT) which is one of several human protein phosphatases (PPT) which is one of several human protein phosphatases (PPT) which is one of several human protein phosphatases (PPT) which is one of several human protein phosphatases (PPT) which is one of several human protein phospha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                    481
                                                                                                          601
                                                                                                                                                               601
                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1; Page 107-108; 117pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
IIEVS
                                            IIEVS
                                                                                                                                                                                                                                                    SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                       SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     665
                                                                                                                                                               QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                    SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                 SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                              SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DKVLITELIQHSAKHKVDIDCSQKVVVYIDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₽,
                                                     665
665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 3406; DB 5;
Pred. No. 2.7e-256;
Pred. No. 2.7e-256;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                            660
                                                                                                                                                                                                                    600
                                                                                                                                                                                                                                                                            600
                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
```

Ş 밁 ક 밁 δ 문 ર્

RESULT

S

301

360 300 300 240

180 180 120 120

60

0

S

δ

ફ

```
ABB97946
IID ABB9
XX ABB9
XX ABB9
XX ABB9
DT O6-S
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
PN W02(
XX 22-I
XX 22-I
XX 22-I
XX 22-I
XX CEDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC CDN
CC C
                                                                                                                                                                                                                                                                                  Ş
                                                                                                   밁
                                                                                                                                                        Ş
                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                    片
                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 663; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention relates to DNA encoding polypeptides directly cloned from cDNA libraries originating in adult whole brain, human tonsil, human adult hippocampus and human foetal whole brain. Polypeptides and polynucleotides of the invention may be used in the investigation of differential expression of the DNA sequences in normal subjects and disease patients. They may also be used in the production of antibodies, oligonucleotide probes and DNA chips for diagnosis and identification of drugs for treatment of diseases with which the DNA sequences are associated. The sequences given in records ABB97934-ABB97964 represent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 665 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Genes and their expression products cloned from human cDNA libraries for treatment and diagnosis of diseases associated with their expression.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    human proteins of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1(a); Page 112-116; 238pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (KAZU-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            22-DEC-2000; 2000JP-00389742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20-DEC-2001; 2001WO-JP011217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             04-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human protein sequence #13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABB97946;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABB97946 standard;
                                                                                                   241
                                                                                                                                                           241
                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2002-500762/53.
                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KAZUSA DNA RES INST FOUND. CELESTAR LEXICO-SCI LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABN83966
QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                         LAGGFAEFSRCFPGLCEGKSTLVPTC1SQPCLPVAN1GPTR1LPNLYLGCQRDVLNKEL1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DKYLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                 LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                  QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                             QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                        LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nagase T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tonsil; hippocampus; foetal brain; diagnosis
                                                                                                   I SRSATIAIAY IMKRMDMSLDEAYR FYKEKR PTI S PNFN FLGQLLDY EKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 3406; DB 5;
Pred. No. 2.7e-256;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
```

```
RESULT 9
AAU7929
ID AAU7
AC AAU7
AC AAU7
AC AAU7
XX AAU7
XX AAU7
XX AAU7
XX Huma
XW Huma
XW Huma
XW Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom
XX Hom

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             당
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               성 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                  Region
                                                                                                    Region
                                                                                                                                      Region
                                                                                                                                                                         Region
                                                                                                                                                                                                           Region
                                                                                                                                                                                                                                                                                                                                   Active-site
                                                                                                                                                                                                                                                                                                                                                                                                       Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human; dual specificity phosphatase 21117; erythroid-related disorder; haemaropoietic-related disorder; leukaemia; autoimmune disease; anaemia; erythrocytosis; liver-related disorder; cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAU79929,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAU79929 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      dual specificity phosphatase 21117 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QKPSDRADSRRSWHEESEPEKOPKRRSCOMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OKPSDRADSRRSWHEESPFEKOFKERSCOMEFGESIMSENRSREELGKVGSOSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SDILAPOTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sásedáleyykésttidginkilcófsevőelseőtésfőbkésástékklótákésőső
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PŚVPŚVQPŚLIEDŚPIVQALŚGLHISADRLEDŚNKIKRŚPŚLDIKŚVŚYŚAŚNĄAŚLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PSVPSVQPS1LEDSP1VQALSG1HLSADR1EDSNKLKRSFS1DIKSVSYSASMAAS1HGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                             458. ../note=
                                                                                                                                 /note=
434...4
                                                                                                                                                                       421.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              665
                                             note=
                                                                                                                  /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                665
                                                                                                                                                                                      note=
                                                                                                                                                                                                                      /note=
                                                                                                                                                                                                                                                          /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /label
                                                                                                                                                                                                                                                                                                          /note= "Tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                 /note=
                                                                                                                                                                                                                                                                                                                                              note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                          . .511
"Casein )
                                                                                                                                 . .424
--= "Casein )
                                                                                               .461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein;
                                                                                                                                                                                                       .372
                                                                                                                                                                                                                                         .269
                                                                                                                                                                                                                                                                                                                                                               .217
                                                                                                                                                                                                                                                                                                                                                                                                   .297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             l= Rhodanese_like_domain
                                                                                                                                                                                  "Casein
                                                                                                                                                                                                               "Casein kinase
                                                                                                                                                                                                                                                     "C-X5-R motif"
                                                                                                                                                                                                                                                                                                                               "Casein kinase II phosphorylation site"
                                                                                                                                                                                                                                                                                                                                                                                                   "Casein kinase II phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                     "Casein kinase II phosphorylation
                                                                                                                                                                                                                                                                                                                                                                   "Dual specificity phosphatase catalytic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       665
     kinase II
                                       kinase
                                                                          kinase
                                                                                                          kinase
                                                                                                                                                                              kinase
                                                                                                                                              kinase
                                                                                                                                                                                                                                                                                                      specific
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A
                                       ΙΙ
                                                                        ï
                                                                                                          ΙΙ
                                                                                                                                              I
                                                                                                                                                                              II
                                                                                                                                                                                                                 II
phosphorylation
                                  phosphorylation
                                                                                                      phosphorylation
                                                                                                                                        phosphorylation
                                                                                                                                                                         phosphorylation
                                                                                                                                                                                                             phosphorylation
                                                                                                                                                                                                                                                                                             protein phosphatase active
                                                                                                      site
                                                                                                                                                                                                                                                                                                                                                                                                         site"
                                                                                                                                                                                                                                                                                                                                                                                                                                           site"
                                                                                                                                                                                                                                                                                                                                                                     domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
```

```
The present invention relates to new nucleic acids designated 38692 and 21117 encoding dual specificity phosphatase family members. The nucleic acid, polypeptide encoded by it, and antibody specific for the polypeptide may be used to diagnose and treat haematopoietic-related disorders such as leukaemias and autoimmune diseases, erythroid-related and cancers, particularly of the breast, colon, adipose, prostate and specificity phosphatase 21117 protein of the invention, as described specificity phosphatase 21117 protein of the invention, as described
                                                                                                                                                                           New nucleic acids, designated 38692 and 21117, encoding dual specificity phosphatases for treating cell proliferation and differentiation disorders including hematopoietic and erythroid-related disorders and
                                                                                                                                                       Claim 8;
                                                                                                                                                                                                                                                                                                                   24-MAR-2000; 2000US-0191858P
                                                                                                                                                                                                                                                                                                                                            23-MAR-2001; 2001US-00816494
                                                                                                                                                                                                                                                                                                                                                                                              US2002034807-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Region
                                                                                                                                                                                                                                     2002-351088/38.
DB; ABK49402.
                                                                                                                                                                                                                                                                                                 MEYERS R A.
                                                                                                                                                     Fig
                                                                                                                                                    1;
                                                                                                                                                 76pp;
                                                                                                                                                                                                                                                                                                                                                                                                                              612..615

/note= "Casein |

617..620

/note= "Casein |

642..645
                                                                                                                                                 English
                                                                                                                                                                                                                                                                                                                                                                                                                   "Casein
                                                                                                                                                                                                                                                                                                                                                                                                                  kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                         kinase
                                                                                                                                                                                                                                                                                                                                                                                                                  Η
                                                                                                                                                                                                                                                                                                                                                                                                                                        ΙI
                                                                                                                                                                                                                                                                                                                                                                                                                                                               II
                                                                                                                                                                                                                                                                                                                                                                                                               phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                       phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                             phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                               site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                              site"
```

Sequence 665 AA;

```
Query Match
Best Local S
Matches 663
                181
                                              181
                                                                                121
                                                                                                                121
                                                                                                                                                 61
                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                663;
QQNGIGYYLNASNTCPKPDFIPESHFLKVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                            Similarity
                     QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                              LAGGFĀBFŚRCFPGLCEĠKŚTĹVPTĊĹŚQPĊĹPVĀNĹĠPTŔĬĹPNĹYĹĠĊQŔĎVĹŇŔBĹM
                                                                                  LAGGFAEFSRCFPGLCEGKSTLVPTCISOPCLFVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                     MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEATNINCSKLMKRRLQQ
                                                                                                                             DKVLITELIGHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                      DKVLITELIQHSAKHKVDIDCSQKVVVVDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                               MAHEMIGTÓIVTÉRLVALLESGTEKVLLIDSRÞFVEYNTSHILEAININGSKLMKRRLQO
                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                          99.6%;
99.7%;
                                                                                                                                                                                                                                                                       Score 3406; DB 5;
Pred. No. 2.7e-256;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                     Indels
```

Ś

665;

0;

Gaps

Ś 밁 8 밁 Ś 밁 Ś 밁 Ś 밁 Ş 밁

361 361 301 301 241 241

PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDTKSVSVSASMAASLHGF PSVPSVQPS1LEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF

420 420

360 360

300 300 240 240 180 180 120 120 60

LVHCLAGISRSATIAIAYIMKRMDMSLDBAYRFYKEKRPTISDNENELGQLLDYEKKIKN LVHCLAGISKSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISDNFNFLGOLLDYEKKIKN

```
5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ঠ 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                        Tang YT,
Xue AJ,
                         The present invention provides the protein and coding sequences of 444 novel human proteins. These were isolated from expressed sequences tags (ESTB). They can be used to stimulate cell growth, to regulate haematopoiesis e.g. to treat aplastic anaemia, to help tissue regrowth e.g. in burn treatment, to regulate the immune system e.g. to treat multiple selevosis, to regulate activin or inhibin e.g. to treat infertility, to regulate haemostasis or thrombolysis e.g. to treat strol and cancer, to screen for drugs, to treat throws yet a disorders e.g. rheumatoid arthritis, and to treat nervous system disorders e.g. Parkinson's disease. The present sequence is a protein of the invention
                                                                                                                                                                     Example
                                                                                                                                                                                                                                    WPI; 2002-292408/33.
N-PSDB; ABN32477.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; antianaemic; vulnerary; antiinflammatory; immunomodulator; antiinfertility; cerebroprotective; cytostatic; rheumatic; gene therapy; neuroprotective; antiparkinsonian; protein therapy; EST;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABB97291 standard;
  Sequence 665
                                                                                                                                                                                             An isolated polynucleotide for treating diseases associated encoded polypeptide such as cancer and multiple sclerosis.
                                                                                                                                                                                                                                                                                                                                       11-SEP-2000; 2000US-00659671
                                                                                                                                                                                                                                                                                                                                                                 10-SEP-2001; 2001WO-US026015
                                                                                                                                                                                                                                                                                                                                                                                                                    WO200222660-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      expressed sequence tag.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                27-JUN-2002
                                                                                                                                                                                                                                                                                                              (HYSE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                            sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                     ν
••
                                                                                                                                                                                                                                                                       Yang Y,
                                                                                                                                                                                                                                                                                                              HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SDILAPOTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                     SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein
  ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        665
                                                                                                                                                                                                                                                                        Zhou P,
Wehrman
                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID
                                                                                                                                                                   559; 509pp; English.
                                                                                                                                                                                                                                                                        Asundi V,
T, Drmanac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      559.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                        Zhang J, RT;
                                                                                                                                                                                                                                                                                      Zhao
                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                       Ren
                                                                                                                                                                                                          with
                                                                 treat stroke
                                                                                                                                                                                                                                                                                      T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       54C
```

```
RESULT 11
ADA54744
ID ADA54
XX ADA54
XX ADA54
XX D7 20-NO
XX CYtos
KW Cytos
KW Gene
KW infla
XX
XX Homo
XX
EP129
XX Homo
XX
PN EP129
XX
                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                       片
                                                                                                                                                                                                                                                                                                                                                                                                                 á
                                                                                                                                                                                                                                                                                                                                                                                                                                             吊
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                       Cytostatic; Anti-inflammatory; Osteopathic; Neuroprotective; Nootropic; Gene Therapy; human; secretory protein; membrane proteins; cancer; inflammatory disease; osteoporosis; neurological disease.
                                                                                                                                           Human protein,
                                        EP1293569-A2
                                                                                                                                                                    20-NOV-2003
                                                                                                                                                                                              ADA54744;
                                                                                                                                                                                                                      ADA54744 standard;
                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      663;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              μ
                                                                                                                                                                                                                                                                                                              IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LAGGFAEFŚŔĆFĠĠĹĊĖĠĸŚTĹVĖŢĊİŚQĖĆĻPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                      IIEVS
                                                                                                                                                                                                                                                                                                                                        QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                     QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                             SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                         SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                               SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PSVPSVQPS1LEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                    (first entry)
                                                                                                                                           SEQ ID
                                                                                                                                                                                                                                                                                      665
                                                                                                                                                                                                                                                                                                                665
                                                                                                                                                                                                                      protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99.6%;
99.7%;
                                                                                                                                            2312.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 3406; DI
Pred. No. 2.7e-
1; Mismatches
                                                                                                                                                                                                                        665
                                                                                                                                                                                                                        ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .7e-256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                         660
                                                                                                                                                                                                                                                                                                                                                                   660
                                                                                                                                                                                                                                                                                                                                                                                             600
                                                                                                                                                                                                                                                                                                                                                                                                                      600
                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
```

19-MAR-2003

21-MAR-2002; 2002EP-00006586

```
Query Match
Best Local S
Matches 662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present invention relates to novel human secretory or membry proteins (ADA54072-ADA55710) and their coding sequences (ADA524 ADA54071). The coding sequences are useful in the gene therapy diseases caused by abnormalities of the proteins, e.g. cancer, inflammatory diseases, osteoporosis or neurological disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New polynucleotides encoding full-length polypeptides, e.g. secretory and/or membrane proteins, useful for developing medicines for diseases which the gene is involved, or as target molecules for gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Yamamoto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14-SEP-2001;
24-JAN-2002;
                                                                 481
                                                                                        481
                                                                                                                 421
                                                                                                                                          421
                                                                                                                                                                     361
                                                                                                                                                                                             361
                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  662;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         μ
ŚDĪLAÞQTŚTÞŚLTŚŚWYFATESSHFYŚAŚAĪYĠĠŚAŚYŚAŶŚCŚQLÞTCĠDQVYŚVRRR
                SDILAPOTSTPSLTSSWYFATESSHFYSASAIYGGSAKYSAYSGSQLPTCGDQVYSVRRR
                                                                  SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                     SSSEDALEYYKFSTTLDGTNKLCQFSFVQELSEQTPETSEDKEEASIFKKLQTARPSDSQ
                                                                                                   SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                       PSVPSVQPSLLEDSPLVQALSGLHUSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                     PSVPSVÓPSILEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                         QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                        LVHCLAGÍSRSATÍAÍAYÍMKKMDMSLDEAYRFVKEKRÞTÍSÞNFNFLGQLLDYEKKÍKN
                                                                                                                                                                                                                                                                           LVHCLAGISRSATIAIAYIMKRMDMSLDBAYRFVKEKRPTISDNENFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                            QQNĞİĞYYLNASNTCPKPDFİPESHFLRVPVNDSFCEKİLPWLDKSVDFİEKAKASNĞCV
                                                                                                                                                                                                                                                                                                                              OQNGIGYVLNASYTCPKPDFIPESHFLRYPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                              LAGGPABPSRCPPGLCEGKSTLVPTCISQPCLPVANIGPTLILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                  LAGGFASFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                    DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSS
                                                                                                                                                                                                                                                                                                                                                                                                                                    DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININGSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HELIX RES INST.
RES ASSOC BIOTECHNOLOGY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    J, Isono Y,
Yoshikawa T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sugiyama T,
, Isono Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2001JP-00328381.
2002US-0350435P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2312; 205pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hio Y, Ot
Otsuka M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Otsuki T, Wakamatsu A,
Hio Y, Otsuka K, Nagai
Otsuka M, Nagahari K, M
                                                 LSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 3399; DB 6;
Pred. No. 9.4e-256;
1; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Masuho
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sato
K, Iz
                                                                                                                                                                                                                                                                                                                                                                                                                  DCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ato H, Is
Irie R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (ADA52433-
therapy of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ishii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      s
                        600
                                                   540
                                                                                                     480
                                                                                                                            480
                                                                                                                                                                              420
                                                                                                                                                       420
                                                                                                                                                                                                         360
                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        H
```

Ś

В S 문 Ś 밁 δ 밁 Ś 밁 Ş 밁 Ś 밁 δ 밁 Ś 밁 Ś 밁

600

Sequence

665

\$

```
The present invention relates to a new polypeptide, DSP-16, having a 665 CC amino acid sequence, given in the specification, or a variant having at CC least 50 % identical residues, which retains the ability to dephosphorylate an activated mitogen-activated protein (MAP) kinase. The cc cinvention can be used for identifying agents which modulate DSP-16 (MAP) kinase. The cativity, for modulation of a proliferative response in a cell, survival contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact contact 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 46; Page;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2002-315802/35.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  activity,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26-SEP-2000; 2000US-0235487P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (CEPT-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25-SEP-2001; 2001WO-US030124.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200226997-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; dual-specificity phosphatase-3; DSP-16; autoimmune disease; mitogen-activated protein kinase; MAP; Duchenne muscular dystrophy; cancer; graft-versus-host disease; allergy; metabolic disease; abnormal cell growth; abnormal cell proliferation; contact inhibition; cell cycle abnormality; anchorage independent cell growth; apoptosis; intercellular adhesion; DSP-16 modulator; mutant; mutein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAU79161;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAU79161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DSP-16 polypeptide, useful in ivity, which can be used in the henne muscular dystrophy, or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        dual-specificity phosphatase-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CEPTYR INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         standard; protein; 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Wei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ÓKPSDRÁDSRRSWHEESPFEKOPKRRSCOMEFGESIMSENRSREELGKVGSOSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OKPSDRADSRESWHEESPFEKOFKRRSCOMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В,
                                                                                                                                                                                                                                                                                                                                                                                                                           87pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "Wild-type Asp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                for identifying modulators the treatment of disorders r cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (DSP-16) mutant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  substituted by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               660
```

```
AAU799162
ID AAU79
XX AAU79
AC AAU79
XX AAU79
XX AU79
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX Humar
XX 
                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local S
Matches 662
                                                                      Human; dual-specificity phosphatase-3; DSP-16; autoimmune disease; mitogen-activated protein kinase; MAP; Duchenne muscular dystrophy; cancer; graft-versus-host disease; allergy; metabolic disease; abnormal cell growth; abnormal cell proliferation; contact inhibition; cell cycle abnormality; anchorage independent cell growth; apoptosis; intercellular adhesion; DSP-16 modulator; mutant; mutein.
                                                                                                                                                                                                                                                                                                                              AAU79162 standard;
                    Synthetic
                                                                                                                                                                                                                                                  02-JUL-2002
                                                                                                                                                                                                                                                                                        AAU79162
                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               662;
                                                                                                                                                                                                            dual-specificity phosphatase-3 (DSP-16) mutant protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QONGIGYVLNASYTGPKPDPHPBSHFLRVHVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                               IIEVS 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                            IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNASFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                  (first
                                                                                                                                                                                                                                                                                                                                                                                                                            665
                                                                                                                                                                                                                                                                                                                            protein;
                                                                                                                                                                                                                                                  entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1;
                                                                                                                                                                                                                                                                                                                              665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 3398; DB 5;
Pred. No. 1.1e-255;
1; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                ξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                  밁
                                                                        S
                                                                                                                8
                                                                                                                                                Ś
                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
```

```
CC amino acid sequence, given in the specification, or a variant having a 665 cc amino acid sequence, given in the specification, or a variant having at composition of a testine the ability to dephosphorylate an activated mitogen-activated protein (MAP) kinase. The cc invention can be used for identifying agents which medulate DSP-16 cc activity, for modulation of a proliferative response in a cell, survival colf a cell, or differentiation of a cell. The cell displays contact cc inhibition of cell growth or annohorage independent growth and may display cc altered intercellular adhesion. The agent may modulate apoptosis, or the cell cycle. The identified modulators can be used to treat Duchenne cc muscular dystrophy, cancer, graft-versus-host disease, autoimmune cc diseases, altergies, metabolic diseases, abnormal cell growth, abnormal cell proliferation, and cell cycle abnormalities. The present amino acid sequence represents the human dual-specificity phosphatase-3 (DSP-16) cc mutant protein #2. Note: This sequence is not shown in the specification but is derived from the wild-type human DSP-16 (AAU79156) protein given cc in figure 2 of the specification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New DSP-16 polypeptide, useful for identifying modulators of activity, which can be used in the treatment of disorders suc Duchenne muscular dystrophy, or cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 46; Page; 87pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Luche RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26-SEP-2000; 2000US-0235487P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 25-SEP-2001; 2001WO-US030124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2002-315802/35.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "Wild-type Cys substituted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  such
```

Sequence 665 AA;

Similarity

99.4%;

5; Length

665;

문 Matches 181 361 301 301 241 241 181 121 121 662; 61 61 1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININGSKLMKRRLQQ QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV LAGGFABFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI DKVLITELIQHSAKHKVDIDCSQKVVVYXDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF LVHSLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN QQNGI DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM Conservative GYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV 1: Score 3396; DB 5; Pred. No. 1.6e-255; 1; Mismatches 2; Indels 0 Gaps 360 300 300 240 240 180 180 120 120 60 60 0

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
polynucleotide having a nucleotide sequence selected from polynucleotides fully defined in the specification. The potential invention has antiproliferative, hepatotropic, nephrot
                                                                                                                                                   Jackson
Siemers
Krystek
                                                                                                                                                                                                                 20-DEC-2000;
30-MAR-2001;
01-MAY-2001;
05-JUN-2001;
25-JUN-2001;
                                                         Claim 5;
                                                                                      Novel polynucleotides encoding the prevention or treatment of
                                                                                                                       N-PSDB;
                                                                                                                                                                                                                                                                                20-DEC-2001; 2001WO-US050459
                                                                                                                                                                                                                                                                                                      25-JUL-2002
                                                                                                                                                                                                                                                                                                                        WO200257460-A2
                                                                                                                                                                                                                                                                                                                                                               antipporiatic; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; arthritis; psoriasis; congenital heart defect; congestive heart failure; cancer; human; mouse; yeast; rat; fruitfly.
                                                                                                                                                                                                                                                                                                                                                                                                          antiproliferative;
                                                                                                                                                                                                                                                                                                                                                                                                                             Protein relating
                                                                                                                                                                                                                                                                                                                                                                                                                                                    19-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABR52352;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABR52352
                                                                                                                                                                                               (BRIM
                                                                                                                                 2002-599721/64.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                     S N DG
                                                                                                                                                                                              BRISTOL-MYERS
                                                        Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SKRLHSVRTSSSGTAQRSLLSPLHRSGS1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                   Feder J,
Bol D, Sc
Mcatee P,
                                                                                                                                                                                                                 ; 2000US-0256868P.
; 2001US-0280186P.
; 2001US-0287735P.
; 2001US-0295848P.
; 2001US-0300465P.
                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    665
                                                       801pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 665
                                                                                                                                                                                                                                                                                                                                                                                                                               Ç
                                                                                                                                                 ۳,
                                                                                                                                                                                                                                                                                                                                                                                                        hepatotropic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein;

    Nelson T, Mintier G, Ramanat
Schieven G, Finger J, Todderud
    Suchard S, Banas D;

                                                                                                                                                                                                                                                                                                                                                                                                                              the invention
                                                                                                                                                                                              SQUIBB
                                                       English.
                                                                                                                                                                                              8
                                                                                     human phosphatase polypeptides useful e.g. proliferative and cardiovascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                        nephrotropic; antiarthritic;
                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                              Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                              NO:
                                                                                                                                                                                                                                                                                                                                                                                                                              42.
                                                                                                                                                              Ramanathan
odderud CG,
  . The polynucleotide nephrotropic,
                                 comprising
                                                                                                                                                           Bassolino
                                                                                                                                                             Ď,
                                                                                                ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
             Of.
```

RESULT 15
ABR52424
ID ABR52
XX
AC ABR52
XX
DT 19-JU

standard;

protein;

664

19-JUN-2003 ABR52424; ABR52424

(first

entry)

멂

661

IIEVS

665

밁 δ

```
δ
                                      밁
                                                              δ
                                                                                                   밁
                                                                                                                             Ś
                                                                                                                                                             B
                                                                                                                                                                                     5
                                                                                                                                                                                                                          멂
                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                   뮍
                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SSSSSSSSSSSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       antiarthritic, antipsoriatic, cardiant, and cytostatic activity. The polynucleotide may have a use in gene therapy. A polynucleotide or polypeptide of the invention is useful for preventing, treating or ameliorating a medical condition, e.g. a proliferative disorder. They are also useful for treating e.g. liver disease, renal failure, immunological disorders including arthritis and psoriasis, cardiovascular disorders such as congenital heart defects and congestive heart failure, and cancer. A method of the invention is useful for diagnosing a pathological condition or susceptibility to a condition in a subject. The present sequence is used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
        661
                                      601
                                                                     601
                                                                                                   541
                                                                                                                                541
                                                                                                                                                             481
                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
        IIEVS
                                                      QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                            SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                      QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                   SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                            SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                         SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                    PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                QTGASGPKSKLKLIHLEKPNEPVPAVSEGGOKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                    LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                      SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                          LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLAYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 665 AA;
                                                                                                                                                                                                                                                                                   PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                              QTGASGPKSKLKLLPLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
        665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 3388; DF Pred. No. 6.7e-
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3388; DB 5;
No. 6.7e-255;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                      660
                                                                                                                               600
                                                                                                                                                                                          540
                                                                                                                                                                                                                                                      480
                                                                                                  600
                                                                                                                                                             540
                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
```

```
ş
                       5
                                                                  밁
                                                                                               S
                                                                                                                                밁
                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                     ર્
                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 659; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Jackson Dd,
Siemers N,)
Krystek S,
                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to a novel isolated nucleic acid comprising a polynucleotide having a nucleotide sequence selected from 40 polynucleotides fully defined in the specification. The polynucleotide of the invention has antiproliferative, hepatotropic, nephrotropic, antiarthritic, antipsoriatic, cardiant, and cytostatic activity. The polynucleotide may have a use in gene therapy. A polynucleotide or polypeptide of the invention is useful for preventing, treating or ameliorating a medical condition, e.g. a proliferative disorder. They are also useful for treating e.g. liver disease, renal failure, immunological disorders including arthritis and psoriasis, cardiovascular disorders such as congenital heart defects and congestive heart failure, and cancer. A method of the invention is useful for diagnosing a pathological condition or susceptibility to a condition in a subject. The present sequence is used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20-DEC-2000; 2000US-0256868P.
30-MAR-2001; 2001US-0287186P.
01-MAY-2001; 2001US-028735P.
05-JUN-2001; 2001US-0295848P.
-25-JUN-2001; 2001US-0300465P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     antiproliferative; hepatotropic; nephrotropic; antiarthritic; antiproliferative; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart defect; congestive heart failure; cancer; human; mouse; yeast; rat; fruitfly.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel polynucleotides encoding the prevention or treatment of
                                                                                                                                                                                                                                                                                                                                                   Sequence 664 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example 57; Page 500-501; 801pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2002-599721/64.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20-DEC-2001; 2001WO-US050459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25-JUL-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200257460-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Protein relating to the invention SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (BRIM ) BRISTOL-MYERS SQUIBB
180
                               181
                                                                  120
                                                                                                     121
                                                                                                                                       60
                                                                                                                                                                         61
                  QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                      LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLFVANIGFTRILFNLYLGCQRDVLNKELI 180
                                                                                                                                                          DKYLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                  MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                       DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                          MAHE-IGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININGSKLMKRRLQQ
                                                                  LAGGEAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
QQNGIGYVLNASNTCPKPDFIPESHPLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Feder J, Nelson T, Mintier G, Ramanat
Bol D, Schieven G, Finger J, Todderud
Mcatee P, Suchard S, Banas D;
                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                              98.6%;
99.1%;
                                                                                                                                                                                                                                                                               <u>ب</u>
                                                                                                                                                                                                                                                                              Score 3368.5; DB 5;
Pred. No. 2.2e-253;
2; Mismatches 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       human phosphatase polypeptides useful e.g. proliferative and cardiovascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ramanathan C, Lee L;
odderud CG, Bassolino
                                                                                                                                                                                                                                                                                                                 .
••
                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                  664;
                                                                                                                                                                                                                                                                               ۲.
                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'n
                                 240
                                                                     179
                                                                                                                                       119
                                                                                                                                                                         120
                                                                                                                                                                                                           59
                                                                                                                                                                                                                                                                               _
```

Db 660	Qy 661	000 da	Qy 601	Db 540	Qy 541		Db 480								
IIEVS 664	 665	QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME	QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME	SDILAPQTSTPSLTSSWYPATESSHFYSASAIYGGSASYSAYSRSQLPTCGDQVYSVRRR	SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR		SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGW	SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH 	SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKLQTARPSDSQ SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH 	SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ	PSVPSVQPSILEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHOP SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ	PSVDSVQPSILEDSPLVQALSGIHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF	QAGASGPKSKLKLIHLEKPNEEVPAVSGGQKSETPLSPPCADSATSEAAGGRPVHPASV QAGASGPKSKLKLIHLEKPNEEVPAVSGGQKSETPLSPPCADSATSEAAGGRPVHPASV PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF	QTGASGPKSKLKLIHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGGRPVHPASV	LYHCLAGISSSATIALAYIMKAMDMSLDEAYREVKEKRPTISPSENFLGQLLDYEKKIKN QTGASGPKSKLKLHLEKPNEPVBVSBGGQKSETPLSPPCADSATSEAAGGRPVHPASV [
		SGSME 659	SGSME 660	SVRRR 599	SVRRR 600	DOME SOO			_						

Search completed: June 21, 2004, 13:20:33 Job time: 76.2709 secs

•	•		
• *			

```
RESULT 1
ABR$5385
ID ABR$5385
AC ABR$
XX ABR$
AC ABR$
XX DT 19-,
DE Pro
XX ant
KW ant
KW ant
KW im
KW co;
XX Mu
XX W
PPN WC
XX W
PPN WC
XX Y
PPN WC
XX PPF 2
PPF 2
XX 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 3 sun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OM protein -
                                                                                                                            antiproliferative; hepatotropic; nephrotropic; antiarthritic; antipsoriatic; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart defect;
                                                                                                                                                                                        Protein relating to the invention SEQ ID
                                                                                                                                                                                                                  19-JUN-2003
                                                                                                                                                                                                                                                               ABR52385 standard;
                        20-DEC-2001; 2001WO-US050459
                                                                                                Mus musculus
                                                                                                                     congestive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No.
                                                                                                                                                                                                                                                                                                                                                           3057.5
3030.5
2930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB B
                                                                                                                                                                                                                                                                                                                                                                                                          Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 No. is the number of results predicted by chance to have greater than or equal to the score of the result being posterived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein search, using sw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     length: 0 length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                         Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ω
                                                                                                                      heart
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-029-345A-109
3418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              July 1,
                                                                                                                                                                                                                                                                                                                                                           888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rag109.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                seqs, 1998 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MAHEMIGTQIVTERLVALLE.....LGKVGSQSSFSGSMEIIEVS
                                                                                                                                                                                                                 (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Copyright
                                                                                                                                                                                                                                                                                                                                                              . 7 . 5
                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                      failure;
                                                                                                                                                                                                                                                               protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2004, 14:15:15; Search time 1 Seconds (without alignments)
                                                                                                                                                                                                                                                                                                                                                           660
666
672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GenCore version (c) 1993 - 2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gapext 0
                                                                                                                                                                                                                                                                                                                                                                                                          멂
                                                                                                                      cancer; human;
                                                                                                                                                                                                                                                                                                                                                          ABR52385
AAB20325
AAM25744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         summaries
                                                                                                                                                                                                                                                               660 AA
                                                                                                                                                                                                                                                                                                                                                                                                          IJ
                                                                                                                                                                                                                                                                                                                         ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                            SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .329 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5.1.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Compugen Ltd
                                                                                                                                                                                           NO:
                                                                                                                     mouse; yeast; rat;
                                                                                                                                                                                           114.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         u
                                                                                                                                                                                                                                                                                                                                                         Protein relating t
Human protein phos
Human protein sequ
                                                                                                                                                                                                                                                                                                                                                                                                         Description
                                                                                                                     fruitfly.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              printed,
                                S
                                                           문
                                                                                Ş
                                                                                                          밁
                                                                                                                            δ
                                                                                                                                                      밁
                                                                                                                                                                           S
                                                                                                                                                                                                     밁
                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                              문
                                                                                                                                                                                                                                                                                                                                                                   Ś
```

Result No.

20-DEC-2000; 2000US-0256868P

-SSEEALDYCKPSATLDGTNKLCQFSPVQEVSEQSPETSPDKEEAHIPKQPQPPRPSESQ

475

```
SXCCCCCCCCCCCX SXTTTXXXXIII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches 594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to a novel isolated nucleic acid comprising a polynucleotide having a nucleotide sequence selected from 40 polynucleotide fully defined in the specification. The polynucleotide of the invention has antiproliferative, hepatotropic, nephrotropic, antiproliferative, hepatotropic, nephrotropic. The polynucleotide may have a use in gene therapy. A polynucleotide or polypeptide of the invention is useful for preventing, treating or ameliorating a medical condition, e.g. a proliferative disorder. They are also useful for treating e.g. liver disease, renal failure, immunological disorders including arthritis and psoriasis, cardiovascular disorders such as congenital heart defects and congestive heart failure, and cancer. A method of the invention is useful for diagnosing a pathological condition or susceptibility to a condition in a subject. The present sequence is used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30-MAR-2001; 2001US-0280186F
01-MAY-2001; 2001US-0287735F
05-JUN-2001; 2001US-025848F
25-JUN-2001; 2001US-0300465F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 660 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure; Fig 12; 801pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel polynucleotides encoding human phosphatase polypeptides useful in the prevention or treatment of e.g. proliferative and cardiovascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-PSDB; ACC60560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Krystek
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Siemers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Jackson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (BRIM ) BRISTOL-MYERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2002-599721/64.
                                               358
                                                                                   361
                                                                                                                       301
                                                                                                                                                       301
                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                             61 DKVLITELIHQSTKHKVDIDCNQRVVVYDHSSQDVGSLSSDCFLTVLLGKLERSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              594;
                                                                                                                                                                                                                                                                                                                                                                                                                                 61 DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                s, z G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MAHEMIGTQIVTESLVALLESGTEKVLLIDSRPFVEYNTSHILEAININGSKLMKRRLQQ
                                                                                                                                                                                                                                                                                       QQNGIGYYLNASYTCPKPDPIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                               PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                        QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                             LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI 180
                                                                                                                       QTGMSGPXSKLKLLHLDKPSEPVPAASEGGWKSALSLSPPCANS-TSEASGQRLVHPA---
                                                                                                                                                                                             LIHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFMGQLMDYEKTINN
                                                                                                                                                                                                                                                                    QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                          LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKDLM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Feder J, Neiber Bol D, Schieven G, Fi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            89.5%; Score 3057.5;
89.3%; Pred. No. 0;
tive 29; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SQUIBB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mintier G, Ramanathan C, Lee L; Finger J, Todderud CG, Bassolino, Banas D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              37;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  660;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ن.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gape
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     D,
                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                          180
                                                 416
                                                                                   420
                                                                                                                       357
                                                                                                                                                           360
                                                                                                                                                                                              300
                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ω
```

```
RESULT 2
AAB20325
ID AAB2
XX AAB2
XX AAB2
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           á
      Modified-site
                                               Modified-site
                                                                                        Modified-site
                                                                                                                                                                            Modified-site
                                                                                                                                                                                                                     Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Protein phosphatase and kinase protein; PPHKP-4; human; gastrointestinal disorder; immune system disorder; neurological disorder; cell proliferative disorder; cancer; diagnosis; therapy.
                                                                                                                                   Modified-site
                                                                                                                                                                                                                                                                Active-site
                                                                                                                                                                                                                                                                                                         Modified-site
                                                                                                                                                                                                                                                                                                                                                    Modified-site
                                                                                                                                                                                                                                                                                                                                                                                               Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                        Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human protein phosphatase and kinase protein-4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            29-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAB20325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              standard; protein; 666 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QKPTDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OKPSDRADSRRSWHEESPFEKOFKRRSCOMEFGESIMSENRSREELGKVGSOSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SDILAPQSSAPSLISSWYFATEPSHLYSASAIYGGNSSYSAYSCGQLPTCSDQIYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VTRLHSVRTGSSGSTQRPFFSPLHRSGSVEDNYHTNFLFGLSTSQQHLTXSAGLGLXGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 665
      /note=
393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note=
                                               369
                                                                                                                                                                                                                                                                                                                                                                                             /note=
                                                                                                                                                                                                                                                                                                                                                    /note= "N-glycosylated"
212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                 /note= "N-glycosylated"
                                                                                                            note=
                                                                                                                                                   note= "O-phosphorylated"
                                                                                                                                                                                                note=
                                                                                                                                                                                                                                                                                                                         note= "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note=
                                                                                                                                                                                                                                         note=
                                                                                                                                                                                                                                                                                  note= "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                            note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 'note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              note=
                                                                                                                                                                                                                         . 278
                                                                                                                                                                                                                                                                .280
                                                                                                                                                                                            "Y phosphatase signature"
                      "O-phosphorylated"
                                                                                                          "O-phosphorylated"
                                                                                                                                                                                                                                       "tyrosine specific protein phosphatase"
                                                                                                                                                                                                                                                                                                                                                                                                                 "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "O-phosphorylated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                        "VH1-type dual specificity phosphatase signature"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         540
```

```
된
                                                                                                                                                       Yue H,
                                                                                                                                                                              15-SEP-1999;
                                                                                                                                                                                         14-SEP-2000; 2000WO-US025515
                                                                                                                                                                                                     22-MAR-2001
                                                                                                                                                                                                                 WO200120004-A2
                                                                                                                                                                                                                                  Modified-site
                                                                                                                                                                                                                                                         Modified-site
                                                                                                                                                                                                                                                                     Modified-site
                                                                                                                                                                                                                                                                                Modified-site
                                                                                                                                                                                                                                                                                            Modified-site
                                                                                                                                                                                                                                                                                                       Modified-site
                                                                                                                                                                  (INCY-)
                                                                                                                                                                                                                                                                                                                   Modified-site
                                                                                                                                                                                                                                                                                                                              Modified-site
                                                                                                                                                                                                                                                                                                                                          Modified-site
                                                                                                                                                                                                                                                                                                                                                      Modified-site
                                                                                                                                                                                                                                                                                                                                                                             Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                Modified-site
                                                                                                                                                                                                                                                                                                                                                                  Modified-site
                                                                                                                                                                                                                                                                                                                                                                                         Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                           Modified-site
                                                                                                                                                 DAM;
                                                                                                                                                     Tang
                                                                                                                                                                  INCYTE GENOMICS INC
                                                                                                                                                      YT,
                                                                                                                                                                              99US-0154141P
                                                                                                                                                                                                                                  /note=
643
                                                                                                                                                                                                                                                                     /note=
618
                                                                                                                                                                                                                                              641
                                                                                                                                                                                                                                                                                /note=
613
                                                                                                                                                                                                                                                                                                                                590
                                                                                                                                                                                                                                                                                                                                           528
                                                                                                                                                                                                                                                                                                                                                                              468
                                                                                                                                                                                                                                                                                                                                                                                         439
                                                                                                                                                                                                                                                                                                                                                                                                    /note=
                                                                                                                                                                                                                                                                                                                                                                  471
                                                                                                                                                                                                                                                                                                                                                                                                                           /note= "O-phosphorylated"
421
                                                                                                                                                                                                                                                               /note=
                                                                                                                                                                                                                                                                                                             /note=
                                                                                                                                                                                                                                                   note=
                                                                                                                                                                                                                                                                                                  note=
                                                                                                                                                                                                                                                                                                                         note=
                                                                                                                                                                                                                                                                                                                                     note=
                                                                                                                                                                                                                                                                                                                                                 note=
                                                                                                                                                                                                                                                                                                                                                           note=
                                                                                                                                                                                                                                                                                                                                                                       note=
                                                                                                                                                                                                                                                                                                                                                                                   note=
                                                                                                                                                                                                                                                                                                                                                                                               note=
                                                                                                                                                                                                                                                                                                                                                                                                                      note=
                                                                                                                                                      Bandman O,
                                                                                                                                                                                                                           "O-phosphorylated
                                                                                                                                                                                                                                      "N-glycosylated"
                                                                                                                                                                                                                                                                         "O-phosphorylated"
                                                                                                                                                                                                                                                                                     "O-phosphorylated"
                                                                                                                                                                                                                                                                                                 "O-phosphorylated"
                                                                                                                                                                                                                                                                                                            "O-phosphorylated"
                                                                                                                                                                                                                                                  "O-phosphorylated"
                                                                                                                                                                                                                                                              "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                        "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                   "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                               "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                           "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                      "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                  "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                             "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                         "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                    "O-phosphorylated"
                                                                                                                                                     Hillman JL,
                                                                                                                                                     Baughn MR,
```

Azimzai

ĸ

N-PSDB; AAF30479 2001-244811/25.

Novel human protein phosphatase and kinase pr treatment and prevention of gastrointestinal, and cell proliferative disorders. proteins for diagnosis,
al, immune system, neurological

Claim 1; Page 87-88; 103pp; English.

The present sequence is that of novel human protein phosphatase and kinase protein PPHKP-4, as predicted from Incyte Clone ID No. 1234795CB1 (see AAF30479). Tissues that express PPHKP-4 (as a fraction of total tissues expressing PPHKP-4) include gastrointestinal (0.385), cardiovascular (0.154), nervous (0.154) and reproductive (0.154). Diseases or conditions associated with tissues expressing PPHKP-4 (as a fraction of total tissues expressing PPHKP-4) include cancer (0.692), inflammation or trauma (0.308) and cell proliferation (0.231). The encoded protein shows homology to mouse neuronal tyrosine threonine phosphatase 1. The invention provides human PPHKP-1 to -11 polypeptides (see AAB20322-32) and polynucleotides (see AAF30476-86). It also provides expression vectors, host cells, antibodies, agonists and antagonists, as well as methods for diagnosing, treating or preventing disorders associated with expression of PPHKP, including gastrointestinal system disorders, neurological disorders also provides cell

proliferative disorders,

including

```
RESULT 3
AAN25744
ID AAN2
XX AAN2
XX AAN2
AC AAN2
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX Hume
XX H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઈ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ર્
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
antiinflammatory; antirheumatic; antiarthritic; immunosuppressive; antibacterial; endocrine; cardiant; central nervous system; virucide; anti-HIV; fungicide; antimutagen; cardiovascular; antianaemic; anaemia; antiaggregant; haemostatic; vulnerary; antiulcer; osteopathic; eczema; dermatological; antiallergic; antiasthmatic; antidiabetic; cytostatic;
                                                                                                                                                                                                                                                                                                                                                          AAM25744 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                           protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MAHEMIGTOIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REELGKVGSQSSFSGSMEIIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REELGKVGSQSSFSGSMEIIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SCSQLPTCGDQVYSVRRRQKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SCSQLPTCGDQVYSVRRRQKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RASDCIRSEPAAVAPPRGPFYLHCIEVG----AWRTITTPASFS-----AFPPASS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RPSDSQSKR---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSSLIRRKPASPRSCRPPGLQTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETS-----PDKEEASIPKKLQTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LAGGFABFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                           sequence
                                                                                                                                     ulcer; HIV infection; human immunodeficiency virus;
                                                                                                                                                                                                                                                                                                                                                       protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                88.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----LHSVRTSSSGTAORSLLSPLHRSGSVEDNYHTSFLFGLS
                                                                                                                                                                                           SEQ
                                                                                                                                                                                           ID NO:1259.
                                                                                                                                                                                                                                                                                                                                                             672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 3030.5;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         35;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
```

```
neuroprotective; antidepressant; nootropic; antiparkinsonian; infection immunostimulant; gene therapy; antisense therapy; vaccine; inflammation antianaphylactic; rheumatoid arthritis; septic shock; pancreatitis; cardiac dysfunction; neuropathology; cardiac anaphylaxis; autoimmunity; genetic disease; haematopoietic disorder; platelet disorder; asthma; thrombocytopaenia; osteoporosis; severe combined immunodeficiency; allergic rhinitis; diabetes; multiple sclerosis; depression; Alzheimer; disease; Parkinson's disease; neurodegenerative disorder;
neurological disorder.
                                                                                                                                                                                                                                                                                                                                                                   inflammation;
                                                                                                                                                                                                                                                                                                                                                                                                                         infection;
```

23-DEC-1999; 99US-00471275. 21-JAN-2000; 2000US-00488725. 25-APR-2000; 2000US-00552317. 22-DEC-2000; 2000WO-US035017.

YT, Drmanac

2001-457603/49. DB; AAH99685.

Isolated human and diagnosis of polynucleotides encoding diagnosis of e.g. cancer, polypeptides, vulcers and HIV useful for

Claim 20; Page 260; 1217pp; English

CC AAM25963 The proteins can have activities based on the tissues and cells CC they are expressed in, such as: antiinflammatory; antirheumatic; CC antiarthritic; immunosuppressive; antiahacterial; endocrine; cardiant; CC cardiovascular; antianaemic; antiahacterial; endocrine; cardiant; CC cardiovascular; antianaemic; antiahacterial; endocrine; cardiant; CC cardiovascular; antianaemic; antiahacteria; hamemostatic; untiahactic; cytostatic; neuroprotective; antidepressant; nootropic; CC antidiabetic; cytostatic; neuroprotective; antidepressant; nootropic; CC antiparkinsonian; and immunostimulant. The proteins and polynucleotides encoding them can be used in gene therapy, antisense therapy and vaccine concoding them can be used in gene therapy, antisense therapy and vaccine production. The proteins and polynucleotides are useful for screening for agonists or antagonists of a protein and for the treatment and diagnosis of disorders associated with the activity of a protein e.g. inflammation, CC rheumatoid arthritis, septic shock, pancreatitis, cardiac dysfunction, CC unaemia, platelet disorders, thrombocytopaenia, wounds, burns, ulcers, CC osteoporosis, severe combined immunodeficiency, eczema, allergic contents disease, parkinson's disease, neurodegenerative and forcers, depression, disorders disease, neurodegenerative and forcers and disorders. neurological disorders

Sequence 672 AA;

```
밁
                                                                          Ś
8
               δ
                                                                                                    밁
                                                                                                                           Ş
                                                                                                                                                       Query Match
Best Local S
Matches 591
128
                       121
                                                                                                                                                        591;
                                                  8
                                                                          61
                                                                                                     8
                                                                                                                                                                      Similarity
             LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILFNLYLGCQRDVLNKELI
                                                 DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                   MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                     MAHEMIGTQIVTERGVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                        85.7%;
llarity 86.5%;
Conservative 10
                                                                                                                                                        Score 2930; D
Pred. No. 0;
l0; Mismatches
                                                                                                                                                                                  B
                                                                                                                                                        46;
                                                                                                                                                                                 Length 672;
                                                                                                                                                          36;
                                                                                                                                                        Gaps
                          180
                                                    127
                                                                             120
                                                                                                       67
```

7

7

,

Search completed: July 1, 2004, 14:15:18 Job time : 1 secs

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Run on:
   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         393.5
360.5
339
239.5
239.5
233.5
223.5
223.5
203.5
208.5
208.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
209.5
20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein search, using sw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           %
Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      June 21, 2004, 13:15:52 ; Search time 22.6939 Seconds (without alignments) 2818.703 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-029-345A-109
3418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PIR 78:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          283366 seqs, 96191526 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MAHEMIGTQIVTERLVALLE.....LGKVGSQSSFSGSMEIIEVS 665
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length DB
335674
33674
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
3314
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
33144
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
3314
33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         T15969
A56115
S24411
                                                                                            F88481
I49365
T39517
T47666
T03074
S31304
A47196
G84458
I49364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S52265
S29090
A57126
B57126
A56947
I38890
                                                                                                                                                                                                                                                                                                                                                                                                                       T39698
JC7885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        T46405
T32494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               283366
                                                                                                                                                      hypothetical prote dual specificity p dual specificity p dual specificity p dual specificity p dual specificity p dual specificity p dual specificity p dual specificity p dual specificity p dual specificity p dual specificity p dual specificity p hypothetical prote hypothetical prote hypothetical prote hypothetical prote hypothetical prote hypothetical prote hypothetical prote protein tyrosine protein C16A3.1 [i protein tyrosine p dual specificity p dual specificity p protein-tyrosine-p dual specificity p protein-tyrosine-p dual specificity p protein-tyrosine-p dual specificity p protein-tyrosine-p dual specificity p protein-tyrosine-p dual specificity p protein-tyrosine-p dual specificity p protein-tyrosine-p dual specificity p
                                                                                         protein-tyrosine-p
dual specificity p
probable protein p
protein tyrosine p
dual specificity p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                hypothetical protein F08B1.1 - Caenorhabditis elegans
()Species: Caenorhabditis elegans
()Species: Caenorhabditis elegans
()Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999
()Accession: T15969
R,Chissoe, S.
submitted to the EMBL Data Library, July 1995
A,Pescription: The sequence of C. elegans cosmid F08B1.
A,Reference number: Z18439
A,Recession: T15969
A,Status: preliminary; translated from GB/EMBL/DDBJ
A,Molecule type: DNA
A,Molecule type: DNA
A,Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 1
T15969
```

ALIGNMENTS

ce to have a lt being printed, bution.	A; Receicle Cype: Dan A; Residues: 1-619 < CCHI> A; Cross-references: EMBL:U23178; NID:g726421; PID:g726422; PIDN:AAC46719.1; CESP:F08B1 A; Experimental source: strain Bristol N2 C; Genetics: A; Gene: CESP:F08B1.1 A; Introns: 22/2; 57/1; 99/1; 160/3; 252/2; 549/3
Description	Query Match 14.6%; Score 497.5; DB 2; Length 619; Best Local Similarity 28.9%; Pred. No. 4.4e-24; Matches 160; Conservative 77; Mismatches 159; Indels 157; Gaps 19;
nypothetical prote dual specificity p dual specificity p	Qy 123 GGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKE 178
dual specificity p	Db 99 GGFKQFAQQYPQLCESSEGWTRLPQSLSQPCLSQPTGD-GITLITPNIYLGSQIDSLDET 157
dual specificity p	Qy 179 LIQQNGIGYYLNASYTCPKPDFIPE-SHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASN 237
dual specificity p	Db 158 MLDALDISVVINLSMTCPKSVCIKEDKNFMRIPVNDSYQEKLSPYFPMAYEFLEKCRRAG 217
hypothetical prote	IMKRMDMSLDEAY
hypothetical prote	SPNFN
hypothetical prote	Qy 297KIKNQTGASGPKSKLKLLHLEKPNEPVPAVSEG 329
low-molecular-mass	Db 278 LIKDHYLDYNQASRPHRHMDYYGPSDLCPPKVPKSASSNCVFPGSTHDESSPSSPSVSEC 337
protein tyrosine p	Qy 330 GQKSETPLSPPCADSATSEAAGQRPVHPASVPSVQPSLLEDSPLVQALSGLHLSADR 389
phosphatase-like p	Db 338 SAASEPETSSSAASSSSTASAPPSMPSTSEQGTSSGTVNVNG 379
protein-tyrosine-p	Qy 390 LEDSNKLKRSFSLDIKSVSYSASMAASLHGFSSSEDALEYYKRSTTLDGTNKLC 443
probable protein p	Db 380KRNMTMDLGLPHRPKALGLPSRIGTSVAELPSPSTELSRLS 420
dual specificity p	Qy 444 QFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQSKRLHSVRTSSSGTAQRSLL 500
probable procein-c protein-tyrosine-p hymothetical prote	Db 421 -FNGPEAIAPSTPILNFTNPCFNSPIIPVASSSREVILTLP 460
I Posticiation Proces	

```
A;Map position: 8p21-8p11.2 (Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity C;Superfamily: dual specificity cysuperfamily: dual specificity concester hydrolase (C;Superfamily: WH1-type dual specificity phosphoprotein phosphatase homology <VH1>F;203-334/Domain: VH1-type dual specificity phosphoprotein phosphatase homology <VH1>F;280/Active site: Cys (phosphocysteine intermediate) #status predicted F;286/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                                      밁
                                                                                                                                                       S
                                                                                                                                                                                                 밁
                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A56115
dual specificity phosphoprotein phosphatase (EC 3.1.3.-) 4 - human
N,Alternate names: dual specificity phosphatase HVH2
C;Species: Homo sapiens (man)
C;Date: 19-Oct-1995 #sequence_revision 19-Oct-1995 #text_change 24-Apr-1998
RESULT 3
                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R;Guan, K.L.; Butch, E.
J. Biol. Chem. 270, 7197-7203, 1995
A;Title: Isolation and characterization of
A;Reference number: A56115; MUID:95221370;
A;Accession: A56115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: mRNA
A; Residues: 1-394 < GUA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Gene: GDB:DUSP4; HVH2; MKP-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C; Accession: A56115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Cross-references: GB:U21108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Status: preliminary; not compared with conceptual
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local !
                                                                                                                         336
                                                                                                                                                                                                   276
                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                           217
                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                    157
                                                                                                                                                                                                                                                                                                                                                                                       135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            615
                                                                                                                                                                                                                                                                                                                                                                                                                          97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         501
                                                                                                                                                                                                                                                                                                                                                                                                                                                               77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                           ATSCAAEAAS
                                                                                     VESVESVOPSLIEDSPLVOALS
                                                                                                                                                        NQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPAS
                                                                                                                                                                                             VLVHCQAGISRSATICLAYLMMKKRVRLEBAFEFVKQRRSIISPNFSFMGQLLQFESQVL
                                                                                                                                                                                                                                VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIK 299
                                                                                                                                                                                                                                                                       LDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDHHKADISSWFMEAIEYIDAVKDCRGR
                                                                                                                                                                                                                                                                                                          IQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                     VDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRCFPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LPSG-GKCLLLDCRPFLAHSAGYILGSVNVRCNTIVRRR-AKGSVSLEQILPAEEEVRAR
                                                                                                                                                                                                                                                                                                                                              FCSKTKALAAIPPPVPPSATEPLDLGCSSCGTPLHDQGGPVEILPFLYLGSAYHAARRDM
                                                                                                                                                                                                                                                                                                                                                                                                                        LRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSEYPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELI--QHSAKHK 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RMKGFFKVFSKKA 542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SSSSSIVVENPFFASTEVPAGSSSISTPSGSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TESSH-----FYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRRQKPSDRADSRRSWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EESPFEKQFKRRS 627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TPAASSS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWHSDILAPQTSTPSLTSSWYFA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GDB:433893
                                                                                                                                                                                                                                                                                                                                                                                   -----VPTCISQP-----C-LPVANI-GPTRILPNLYLGCQRDVLNKEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 443; DB 2;
Pred. No. 6.9e-21;
74; Mismatches 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a novel dual PMID:7535768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       142;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      translation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 394;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          specific
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STPASASSSAASRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -SEPSFDFSSFES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          phosphatase,
                                                                                                                        SVG
                                                                                                                                                          359
                                                                                                                                                                                                                                                                                                                                                                                                                                                           134
                                                                                                                                                                                                                                                                       275
                                                                                                                                                                                                                                                                                                                                                216
                                                                                                                                                                                                                                                                                                                                                                                                                      156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HVH2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          whi
     N;Alternate names: protein-tyrosine-phosphatase C;Species: Rattus norvegicus (Norway rat) C;Date: 07-May-1995 #sequence_revision 21-Jul-19 C;Accession: $52265 R;Muda, M.; Schlegel, W.; Arkinstall, S.
                                                                                                                                                                                                                                                                   밁
                                                                                                dual specificity phosphatase (EC 3.1.3.-) 1 -
                                                                                                                                                                                             뮍
                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            占
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
```

```
A;Introns: 123/1; 172/1; 245/1
C;Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity phosphoric monoester hydrolase C;Keywords: immediate-early protein; phosphoprotein; phosphoric monoester hydrolase F;181-312/Domain: VH1-type dual specificity phosphoprotein phosphatase homology <VH1>F;258/Active site: Cys (phosphocysteine intermediate) #status predicted F;264/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: EMBL:X61940; NID:g49735; PIDN:CAA43944.1; PID:g49736 C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-references: GB:S64851; NID:g409976; PIDN:AAB27882.1; R;Charles, C.H.; Abler, A.S.; Lau, L.F. Oncogene 7, 187-190, 1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mol. Cell. Biol. 13, 5195-5205, 1993
A;Title: Structure, mapping, and expression
A;Reference number: A54681; MUID:93360956; P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            dual specificity phosphoprotein phosphatase (EC 3.1.3.-) 1 - mouse N;Alternate names: 3CH134 protein; protein-tyrosine-phosphatase erp, nonrec C;Species: Mus muscullus (house mouse) C;Date: 19-Feb-1994 #sequence_revision 02-May-1994 #text_change 11-Jun-1999 C;Accession: A54681; S24411 R;Noguchi, T:, Metz, R.; Chen, L.; Mattei, M.G.; Carrasco, D.; Bravo, R. Mol. Cell. Biol. 13, 5195-5205, 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Gene: erp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: mRNA
A; Residues: 1-367 < CHA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Title: cDNA sequence of a growth factor-inducible immediate A; Reference number: S24411; MUID:92158357; PMID:1741163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: DNA
A; Residues: 1-367 < NOG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Accession: A54681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
  348
                                                     356
                                                                                                       310
                                                                                                                                                                                                                                                                                                                        191
                                                                                                                                                            296
                                                                                                                                                                                                              250
                                                                                                                                                                                                                                                                   236
                                                                                                                                                                                                                                                                                                                                                                           176
                                                                                                                                                                                                                                                                                                                                                                                                                                133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      115;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S24411
HPTN 351
                                                     HPAS
                                                                                                       SQV-----LAPHCS---
                                                                                                                                                      KKIKNQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPV
                                                                                                                                                                                                              AGGRVFVHCQAGISRSATICLAYLMRTNRVKLDEAFEFVKQRRSIISPNFSFMGQLLQFE
                                                                                                                                                                                                                                                              SNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDBAYRFVKEKRPTISPNFNFLGQLLDYE
                                                                                                                                                                                                                                                                                                                     RKDMLDALGITALINVSANCPN-HFEGHYQYKSIPVEDNHKADISSWFNEAIDFIDSIKD
                                                                                                                                                                                                                                                                                                                                                                     NKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKL--EKSFNSVHLLAGGFAEFSRCF 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LVALLESGIEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELIQHSAK
                                                                                                                                                                                                                                                                                                                                                                                                                          PELCSKOST--PTGLSLPLSTSVPDSAESGCSSCSTPLYDQGGPVEILSFLYLGSAYHAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PGLCEGKSTLVPTCISQP------CLPVANI-----GPTRILPNLYLGCQRDVL 175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GRILLAGAYHAVVILLDERSASLDGAKRDGTLALAAGALCREARSTQVFFLQGGYEAFSASC 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LRALLREGAAQCLLLDCRSFFAFNAGHIAGSVNVRFSTIVRRRAKGAMGLEHIVPNAELR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                54;
                                                                                                       ---AEAGSPAMAVLDRGTSTTTVFNFPVS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 433; DB 1;
Pred. No. 2.7e-20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  n of erp, a growth PMID:8355678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   151;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 367;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PID:g409977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        factor-inducible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         early
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nonreceptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and
                                                                                                                                                         355
                                                                                                                                                                                                                                                                295
                                                                                                                                                                                                              309
                                                                                                                                                                                                                                                                                                                                                                        235
                                                                                                                                                                                                                                                                                                                     249
                                                                                                                                                                                                                                                                                                                                                                                                                             190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         characteriza
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        encod:
```

Data

Library,

January

21-Jul-1995

#text_change 22-Jun-1999

CL100;

protein-tyrosine-phosphatase,

```
RESULT 5
$29090
dual specificity phosphoprotein phosphatase (EC 3.1.3.-) 1 - human
N,Alternate names: protein-tyrosine-phosphatase CL100; protein-tyrosine-phosp
C;Species: Homo sapiens (man)
C;Date: 25-Peb-1994 #sequence_revision 02-May-1994 #text_change 11-Jun-1999
C;Accession: S29090; A53052
R;Keyse, S.M.; Emable, E.A.
Nature 359, 644-647, 1992
A;Title: Oxidative stress and heat shock induce a human gene encoding a protein-type: mRNA
A;Reference number: S29090; MUID:93024952; PMID:1406996
A;Accession: S29090
A;Molecule type: mRNA
A;Cross-references: EMBL:X68277; NID:g29980; PIDN:CAA48338.1; PID:g29981
A;Title: Isolation and characterization of a human dual specificity protein-ta;Reference number: A53052; MUID:94148864; PMID:8106404
A;Reference number: A53052; MUID:94148864; PMID:8106404
A;Residues: 1-367 <KWA>
A;Residues: 1-367 <KWA>
A;Residues: 1-367 <KWA>
A;Residues: GDB:DUSP1; PTPN10
A.Cross-reference CDB:DUSP1; PTPN10
A.Cross-reference CDB:DUSP1; PTPN10
A.Cross-reference CDB:DUSP1; PTPN10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Description: Pathways regulating CL100 gene expression in pituitary cells.
A;Reference number: S52265
A;Accession: S52265
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status: preliminary
A;Status
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ર્ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ફ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Match 12.4%; Score 423; DB 2; Length 367; Local Similarity 31.3%; Pred. No. 1.2e-19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        345 IPVHPTN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           247 IKDAGGRVFVHCQAGISRSATICLAYLMRTNRVKLDEAFEFVKQRRSIISPNFSFMGQLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       173 DVLNKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILEWLDKSVDFIEK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              70 QHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKL--EKSFNSVHLLAGGFAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15 LVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQ-----QDKVLITELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RPVHPAS 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QFESQV-----LAPHCS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DYEKKIKNQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HASRKDMLDALGITALINVSANCPN-HFEGHYQYKSIPVEDNHKADISSWFNEAIDFIDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FSASCPELCSKQSTPMGLSLPLSTSVPDSAESGCSSCSTPLYDQGGPVEILSFLYLGSAY 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FSRCFPGLCEGK-----STLVPTCISQPCLPVANI-----GPTRILPNLYLGCQR 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ----rgrllagayhavvlldersaaldgakrdgtlalaagalcrearstqvfflqggyea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LRALLRERAAQCLLLDCRSFFAFNAGHIVGSVNVRFSTIVRRRAKGAMGLEHIVPNTEL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
GDB:136197; OMIM:600714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   54; Mismatches 148; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -AEAGSPAMAVLDRGTSTTTVFNFPVS------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  #text_change 11-Jun-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein-tyrosine-phosphatase,
                                                                                                                                                                                                                                                                                                                                                                    specificity protein-tyrosine
                                                                                                                        NCBIN:143802,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein-tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  69
                                                                                                                            NCBIN:143804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            nor
                                                                                                                                                                                                                                                                                                                                                                    odq
```

```
A;Map position: 5q34-5q34
C;Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity I C;Superfamily: dual specificity phosphoric monoester hydrolase; stress-induced pr C;Keywords: heat shock; phosphoprotein; phosphoprotein phosphatase homology <VH1> F;181-312/Domain: VH1-type dual specificity phosphoprotein phosphatase homology <VH1> F;258/Active site: Cys (phosphocysteine intermediate) #status predicted F;264/Binding site: substrate phosphate (Arg) #status predicted
                                                                      A;Description: catalyzes the hydrolysis of peptidyl-phosphoserine, -phosphothreonine, C;Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity (Keywords: nucleus; phosphoprotein; phosphoric monoester hydrolase F;140-160/Region: nuclear location signal F;180-311/Domain: VH1-type dual specificity phosphoprotein phosphatase homology <VH1-F;257/Active site: Cys (phosphocysteine intermediate) #status predicted F;263/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                              A;Cross-references: GDB:1
A;Map position: 2q11-2q11
C;Function:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R;Rohan, P.J.; Davis, P.; Moskaluk, C.A.; Kearns, M.; Krutzsch, H.; Sie Science 259, 1763-1766, 1993
A;Title: PRC-1: a mitogen-induced nuclear protein tyrosine phosphatase. A;Reference number: A57126; MUID:93206122; PMID:7681221
A;Accession: A57126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   dual specificity phosphoprotein phosphatase (EC 3.1.3.-) 2 - human N;Alternate names: mitogen-induced nuclear tyrosine phosphatase; phosphatase C;Species: Homo sapiens (man) C;Date: 03-Nov-1995 #sequence_revision 02-Jul-1996 #text_change 11-Jun-1999 C;Accession: A57126
                                                                                                                                                                                                                                                                                                                                                  A;Residues: 1-314 <1
A;Cross-references:
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ई
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                          A; Gene: GDB: DUSP2
                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Status: nucleic acid sequence not shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local S
Matches 113
Query Match
Best Local :
Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             312 V-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               178 ELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         113;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 73 GRILLAGAYHAVVILIDERSAALDGAKRDGTLALAAGALCREARAAQVFFLKGGYEAFSASC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 75 HKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKL--EKSFNSVHLLAGGFAEFSRCF 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13 LRALLGERAAQCLLLDCRSFFAFNAGHIAGSVNVRFSTIVRRRAKGAMGLEHIVPNAELR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15 LVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELIQHSAK
                                                                                                                                                                                                                                                                                                                                                                                                         1-314 < ROH>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ٧q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PGLCEGK-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IKNOTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSET----PLSPPCADSATSEAAGQR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GRVFVHCQAGISRSATICLAYLMRTNRVKLDBAFEFVKQRRSIISPNFSFMGQLLQFBSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DMLDALGITALINVSANCPN-HFEGHYQYKSIPVEDNHKADISSWFNEAIDFIDSIKNAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PELCSKOSTPMGLSLPLSTSVPDSAESGCSSCSTPLYDQGGPVEILPFLYLGSAYHASRK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Davis, P.; Moskaluk, C.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           355
                                                                                                                                                                                                                                                                                                     GDB:139200
                                                                                                                                                                                                                                                                                                                                                                               GB:L11329; NID:g559539; PIDN:AAA50779.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12.3%;
12.2%; Score 418; DB 1 36.0%; Pred: No. 2e-19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                --STLVPTCISQPCLPVANI-----GPTRILPNLYLGCQRDVLNK 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      56;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             - AEAGSPAMAVLDRGTSTTTVFNFPVSIPVHSTNSALSYLQS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 420; DB 1;
Pred. No. 1.8e-19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                       DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ξ
                       Length 314;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                 PID:g292376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      H.; Siebenlist,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         74
                                                                                                                                                                                            specificity p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      □
::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         activated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kelly
```

Indels

44;

8

```
RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Cross references; GB:L11330
C; Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity C; Keywords: nucleus; phosphoprotein; phosphoric monoester hydrolase P; 180-311/Domain: VH1-type dual specificity phosphoprotein phosphatase homology <VH1-type dual specificity phosphoprotein phosphatase homology <VH1-p; 257/Active site: Cys (phosphocysteine intermediate) #status predicted
F; 263/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-314 <ROH>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         dual specificity phosphatase (EC 3.1.3.-) 2 - mouse
N;Alternate names: mitogen-induced nuclear protein-tyrosine-phosphatase
C;Species: Mus musculus (house mouse)
C;Date: 03-Nov-1995 #sequence_revision 03-Nov-1995 #text_change 24-Apr-1.
C;Accession: B57126
R;Rohan, P.J; Davis, P.; Moskaluk, C.A.; Kearns, M.; Krutzsch, H.; Siebus, P.J; Davis, P.; Moskaluk, C.A.; Kearns of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT
B57126
dual sp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      청 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                     255
                                                                                                                                           242
                                                                                                                                                                                                                                                                                   136 QTYCPDLCSEAPAQALPPAGAENSNSDPRVPIYDQGGPVBILPYLYLGSCNHSSDLQGLQ
                                                                                                                                                                                                       196
                                                                                                                                                                                                                                                                182
                                                                                                                                                                                                                                                                                                                                                                                   129
                                                                                                                                                                                                                                                                                                                                                                                                                                               85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             al Similarity
107; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     129
                                                                                     VHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKI 298
                                                                                                                                                                    ACGITAVLNVSASCPN-HFEGLFHYKSIPVEDNOMVEISAWFQEAISFIDSVKNSGGRVL
                                                                                                                                                                                                                       QNGIGYVLNASYTCPKEDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCVL
                                                  VHCQAGISRSATICLAYLIQSHRVRLDEAFDFVKQRRGVISPNFSFMGQLLQLETQV
                                                                                                                                                                                                                                                                                                                                            SRCFPGI,C-EGKSTLVP----TCISQPCLPVANI-GPTRILPNIYI,GCQRDVLNKELIQ 181
                                                                                                                                                                                                                                                                                                                                                                                                            L-----ARAVVLDESSASVTELPPDGPAHLLLAALQHEMRGGPTTVCFLRGGFKSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                               AKHKVDIDCSQKVVVYVDQSSQDVASLSSDCFLTVLLGKLEKSF----NSVHLLAGGFAEF 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ERTILLLDCRPFLAFCRSHVRAARPVPWNALLRRRAPGTPAAALACULPDRALRARLGRGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EKVLLIDSRPFVEYNTSHILEAININCSKLMKRR------LQQDKVLITELIQHS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SGGRVLVHCQAGISRSATICLAYLMQSRRVRLDBAFDFVKQRRGVISÞNFSFMGQLLQFE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QNGIGYYLNASYTCPKPDFIPESHF-----LRVPVNDSFCEKILPWLDKSVDFIEKAKA 235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SNGCVLVHCLAGISRSATIAIAYIMKRNDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYE 295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Davis, P.; Moskaluk, C.A.; Kearns, M.; Krutzsch, H.; Siebenlist,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QGCCPDLCSEAPAPALPPTGDKTSRSDSRAPVYDQGGPVETLPYLFLGSCSHSSDLQGLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            L------aravvlidegsasväelrpdspahvllaallhetragptavyflrggfidgf
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AKHKVDIDCSQKVVVYKDQSSQDVASLSSD----CFLTVLLGKLEKSFNSVHLLAGGFAEF 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SRCFPGLC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ERTLLLDCRPFLAFCRRHVRAARPVPWNALLRRRARGPPAAVLACLLPDRALRTRLVRGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EKVLLIDSRPFVEYNTSHILEAININCSKLMKRR------LQQDKVLITELIQHS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -¤GKSTLVp-----TCI$QPCLpyaNI-GPTRILpNLYLGCQRDVLNKELIQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 409; DB 2;
Pred. No. 7.4e-19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches 113;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -NHFEGLFRYKSIPVEDNQMVEISAWFQEAIGFIDWVKN 248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 314;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24-Apr-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PAC-1
                                                                                                                                                                                                                                                                                                                                                                                                            135
                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                          195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kel
```

밁 δ 밁 Ś 문 Ş 문 á

and

heat

```
A;Cross-references: EMBL:U16996; NID:9642012; PIDN:AAB06261.1; PID:9642013
A;Experimental source: placenta
R;Ishibashi, T.; Bottaro, D.P.; Michieli, P.; Kelley, C.A.; Aaronson, S.A.
J. Biol. Chem. 269, 29897-29902, 1994
A;Title: A novel dual specificity phosphatase induced by serum stimulation
A;Reference number: A55313; MUID:95050849; PMID:7961985
                                                                                                                                                                                             dual specificity phosphoprotein phosphatase (EC 3.1.3.-) 5 - human N;Alternate names: dual specificity phosphatase B23; dual-specific C;Species: Homo sapiens (man) C;Date: 16-Feb-196 #sequence_revision 01-Mar-1996 #text_change 1. C;Accession: 138890; A55313 R;Kwak, S.P.; Dixon, J.E. J. Biol. Chem. 270, 1156-1160, 1995 A;Title: Multiple dual specificity protein tyrosine phosphatases A;Facce number: A55432; MUID: 95138103; PMID: 7836374
                                                                                                                                                A;Accession: 138890
A;Molecule type: mRNA
A;Residues: 1-384 <RES>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뮍
                                                                                                                                                                                                                                                                                                                                                                                                                    I38890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ŕ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Status: preliminary
A;Molecule type: mRNA
A;Rolecule type: mRNA
A;Residues: 1-393 «MIS»
C;Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual spec
C;Keywords: phosphoprotein; phosphoric monoester hydrolase
F;202-33,JDomain: VH1-type dual specificity phosphoprotein phosphatase homology
F;279/Active site: Cys (phosphocysteine intermediate) #status predicted
F;285/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R.Misra-Press, A.; Rim, C.S.; Yao, H.; Roberson, M.S.; Stork, J. Biol. Chem. 270, 14587-14596, 1995
A;Title: A novel mitogen-activated protein kinase phosphatase. A;Reference number. A56947; MUID:95301550; PMID:7782322
A;Accession: A56947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            dual specificity phosphatase (EC 3.1.3.-) HVH2 - rat
N,Alternate names: mitogen-activated protein kinase phosphatase 2
C,Species: Rattus norvegicus (Norway rat)
C,Date: 18-Aug-1995 #sequence_revision 18-Aug-1995 #text_change 17-Mar-1999
C,Accession: A56947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              353 RPVHPASVPSVPSVQPSLLEDSPLVQALS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         130 RCFPGLCEGKSTLVPTCISQPCLPVANI-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     115;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            38 LGLLSGG--KCLLLDCRPFLAHSAGYİRGSVNVRCNTIVRRR-AKGSVSLEQIL--PAEE 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16 VALLESGTEKVILIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELIQHSAKH 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FPV-SVGVHAAPSNLPYL--HSPITTSPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QFESQVLTTSCAAEAAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DYEKKIKNOTGASGPKSKLKLLHLEKPNEPVPAVSEGGOKSETPLSPPCADSATSEAAGO 352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VKDCRĠRVĹVHCQĀĠĪŚRŚĀŤĨCLĀYLMMKKRVRĹEĒĀFEFVKQRRSIĪŠĒNFSFMĠQĹĹ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AKASNGCVLVHCLAGISRSATIAIAYIMKRWDMSLDBAYRFVKBKRPTISPNFNFLGQLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HAARRDMLDALGÍTALLNVSSDÓÐN-HFEGHYQYKCIÐVEÐNHKADÍSSWEMBAIEYÍDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DVLNKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEYPEFCSKTKAL--AAIPPPVPPSTNESLDLGCSSCGTPLHDQGGPVBILPFLYLGSAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KV-----DIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHLLAGGFAEFS 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EVRPCALASTRLSSSTMTQPARRESPGGQHSVAGRAALRRNAERT--DICLLKGGYERFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 393.5; DE
Pred. No. 1e-17;
                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -PSGP---LRERGKATPTP--
                                                                                                                                                                                                                                                                                                                                             B23; dual-specificity phosphatase
                                                                                                                                                                                                                                                                                                                                                                             3.1.3.-) 5 - human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       153;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ------GPTRILPNLYLGCQR 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 393;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P.J.S
                                                                                                                                                                                                                           are
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  57;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Structure,
                                                                                                                                                                                                                       expressed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   specificit
                                                                                                                                                                                                                    and
                                                                                                                                                                                                                                                                                                                                                hVH-3
                                                                                                                                                                                                                    regul
```

٦ø

```
R;Blum, H.; Bauersachs, S.; Mewes, H
submitted to the Protein Sequence Dal
A;Reference number: Z23034
A;Accession: T46405
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-303 <AAA>
A;Cross-references: EMBL:AL137704
A;Cross-references: EMBL:AL137704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Accession: A55313
A;Molecule type: mRNM,
A;Molecule type: mRNM,
A;Molecule type: mRNM,
A;Molecule type: mRNM,
A;Molecule type: mRNM,
A;Molecule type: mRNM,
A;Molecule type: mRNM,
A;Molecule type: mRNM,
A;Molecule type: mRNM,
A;Cross-references: GB:U15932; NID:g606971; PIDN:AAA64693.1; PID:g606972
A;Cross-references: GB:U15932; NID:g606971;
A;Gene: GB:DUSP5
A;Gene: GB:DUSP5
A;Gene: GB:DUSP5
A;Gene: GDB:DUSP5
A;Gene: GDB:DUSP5
A;Gene: GDB:DUSP5
C;Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity
C;Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity
C;Superfamily: dual specificity phosphorocester hydrolase
C;Keywords: phosphoprotein; phosphorocester hydrolase
F;186-317,Domain: VH1-type dual specificity phosphoprotein phosphatase homology <VH1>
F;363/Accive site: Cys (phosphocysteine intermediate) #status predicted
F;269/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   hypothetical protein DKFZp43401321.1 - human (;Species: Homo sapiens (man) (c;Species: Homo sapiens (man) (c;Date: 04-Feb-2000 #sequence_revision 04-Feb-2000 #text_change 21-Jun-2002 (c;Date: 04-Feb-2000 #sequence_revision 04-Feb-2000 #text_change 21-Jun-2002 (c;Accession: T46405
                                                                                                                                                                                                 A;Experimental source: adult testis; clone C;Genetics:
A;Note: DKFZp43401321.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
맑
                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              T46405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 107; Conserv
                                                                                                                        Match 9.9%; Score 339; DB 2; Local Similarity 33.6%; Pred. No. 2.1e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       123
                                                123 GGFAEFSRCFPGLCEGKSTL-----VPTCISQP-----
54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15 LRKEAAARCVVLDCRPYLAFAASNVRGSLNVNLNSVVLRRARGGAV-----SARYVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           18 LLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELIQHSAKHKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DIDCSQ-----KVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNS---VHLLA 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APVPTHSTVSELSRSPVA----TATS 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LPNLYLGCQRDVLNKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGFAEFSRCFPGLC------EGKSTLVPTCISQPCLPVANI------GPTRI
GGYERFSSEYPEFCSKTKALAAIPPPVPPSATEPLDLGCSSCGTPLHDQGGPVEILPFLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EPVPAVSEGGQKSETPLSPPCADSATS 347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PNFGFMGQLLQYESEILPSTPNPQPPSCQGEAAGSSLIGHLQTLSPDMQGAYCTFPASVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PNFNFLGQLLDYEKKIKNQT-----GASGPKSKLKLLHLEKPN-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FQEAIDFIDCVREKGGKVLVHCEAGISRSPTICMAYLMKTKQFRLKEAFDYIKQRRSMVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LPFLYLGSAYHASKCEFLANLHITALLNVSRRTSEA-CMTHLHYKWIPVEDSHTADISSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGYETFYSEYPECCVDVKPISQEKIESERALISQCGK----PVVNVSYRPAYDQGGPVEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PDEAARARLLQEGGGGVAAVVVLDQGSRHWQKLREESAARVVLTSLLACLPAGPRVYFLK 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              62;
                                                                                                44;
                                                                                             Pred. No. 2.16
4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 360.5; DB 1;
Pred. No. 1.3e-15;
2; Mismatches 143;
                                                                                                                                                                                                                                                                                                                                                                                                                                     Database,
                                                                                                                                                                                                                                                                                                                                                                                                                                                             H.W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Gassenhuber, J.; Wiemann,
se, January 2000
                                                                                                                                                                                                                                                      DKFZp43401321
                                                                                                                                                Length 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                        -C-LPVANI-GPTRILPNLY 167
                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 384;
                                                                                                40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 75;
                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    182
                                                                                                10;
```

```
R;Geisel, C.; Wamsley, P.
submitted to the EMBL Data Library, December 1997
A;Description: The sequence of C. elegans cosmid CO5B10.
A;Reference number: Z21178
A;Accession: T32494
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-365 <GEI>
A;Cross-references: EMBL:AF036685; PIDN:AAB88308.1; GSPDB:GN00022; CESI
A;Eross-references: EMBL:AF036685; PIDN:AAB88308.1; GSPDB:GN00022; CESI
A;Eross-references: EMBL:AF036685; PIDN:AAB88308.1; GSPDB:GN00022; CESI
A;Enerimental source: strain Bristol N2; clone C05B10
C;Generics:
A;Gene: CESP:C05B10.1
A;Map position: 4
A;Introns: 22/2; 46/2; 74/3; 163/2; 204/2; 248/1; 287/2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hypothetical protein C05B10.1 - Caenorhabditis elegans (;Species: Caenorhabditis elegans C;Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #te C;Accession: T32494 R;Geisel, C.; Wamsley, P.
RESULT
T18915
                                                                                                                           Ó
                                                                                                                                                                           片
                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
Matches 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                173
                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                           159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                168
                                                                                         301
                                                                                                                                                                                                                                                                                                                                                      126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    288 LGQLLDYEKKIKNQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATS
                                                                                                                                                                                                                                                                                                                                                                                                  120 LLAGGFAEFS-----RCFPGLCEGKSTLVPTCISQPCLPVANIG-------
                                                                                                                                                                                                                                                                                                                                                                                                                                           66 TVPDLKDLNNSPDQCPEVLLIPGDSEQDEQLSAALARNLKSNHYRHFVLGEPVKTLLSQF 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         83;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                             RPTISPNENFLGQLLDYEKKI---KNQTGAS 305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNF
                                                                                         NASIAPNEHEMGQLTDYEKMLGLNSNRVGVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GEEISAEQFNRIFHE--RNVIVLDCRS----NGDSVKRANRLRLPALLQRRLMGGSMRLS
                                                                                                                                                                             NLTKFFPEAISFIDDARRNDSACLVHCLAGISRSVTICLAYLMKTEMCTLDSAYEWVQKR
                                                                                                                                                                                                                      KILPWLDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEK 277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ELIQHSAKHKVDIDCSQKVVVVYDQSSQD-----VASLSSDCFLTVLLGKLEKSFNSVH 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EAAGQRPVHPASVPSVPSVQPSLLEDSPLVQALS 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EYIDAVKDCRGRVLVHCQAGISRSATICLAYLMMKKRVRLEEAFEFVKQRRSIISPNFSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LGCQRDVLNKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSV
                                                                                                                                                                                                                                                                  PVKLTNFLYLGNAETAKNRDVLKKYSISHVINVTSNLPNTFEEDPNMRYLRISADDNASH
                                                                                                                                                                                                                                                                                                         PTRILPNLYLGCQRDVLNKELIQQNGIGYVLNASYTCPKP-DFIPESHFLRVPVNDSFCE
                                                                                                                                                                                                                                                                                                                                                         PTLRDAADENWNTTFQMNSMPGQASGQQ-----ASSGPLLNLNQLRLEGEDQGGKQRAEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QFVFSFPV-SVGVHSAPSSLPYL--HSPITTSPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LGSAYHAARRDMLDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFMEAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8.6%; Score 294.5; DB
25.1%; Pred. No. 2e-11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         29-Oct-1999 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         137;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       43;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29-Oct-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CESP: C05B10.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         347
                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                    158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
```

hypothetical protein C04F12.8 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999

```
Ş
                                               В
                                                                                Ś
                                                                                                                     문
                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                         A;Reference number: Z19415
A;Accession: T21380
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-226 <WIL>
A;Cross-references: EMBL:Z78419; PIDN:CAB01700.1; GSPDB:GN00019; CESP:F26A3.4
A;Experimental source: clone F26A3
                                                                                                                                                                                                                                                                            A;Gene: CESP:F26A3.4
A;Map position: 1
                                                                                                                                                                                                                                                      A; Introns: 117/2; 150/3; 186/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 13
T21380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           hypothetical protein F26A3.4 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Map position: 1
A;Introns: 53/1; 84/3; 204/2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Accession: T18915
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-272 <WIL>
A;Cross-references: EMBL:Z81461; PIDN:CAB03837.1; GSPDB:GN00019; CESP:C04F12.8
A;Experimental source: clone C04F12
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    submitted to the EMBL Data Library, November 1996 A;Reference number: Z19044
                                                                                                                                                                                                                                                                        Map position:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Gene: CESP: C04F12.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Accession:
R;Lloyd, C.
                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 7.0%;
Best Local Similarity 30.2%;
Matches 77; Conservative 4
                                                                                                                                                                                                      Local
280 TISPNFNFLGQLLDYEKKIKNQTGASGPKSKLKLLHLE-KPNEPVPAVSEGGQKSETPLS 338
                                                                                                                                      160 TRILPNIYLGÇORDVINKELIQONGIGYVINASYTCPKPDFIPESHFLRVPVNDSFCEKI
                                  74 YPHLELQSDQIQALIADGGKVLVHCVAGVSRSASICLAFLLKYRCRNLREAYHLMKSKRS 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               122 HYVKAARPIIRENVGFWKOMVDYEKRLRG-----TASVKMVQTPECDMPIPDVYADDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             272 RFVKEKRPTISPNFNFLGQLLDYEKKIKNQTGASGPKSKLKLLHLEKPNEPVPAVSEGG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   156
                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4
                                                       LPWLDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRP
                                                                                                   SEIVPGLFI-CGVSALSKDEMKGHKITHIINATTEVPNLRSLGDIQRTKLMLEDTPQTYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RRMQINREISRHSLPSAQSSASKQRAFSASTYRPSVSSA--SSLATSSLRRAYSPSSLPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           --QKSETPLSPPCADSATSEAAGQRPVHPASV-PSVPSVQPSLLEDSPLVQALSGLHLSA 387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DRIEDSNKLKRSFSL 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               T18915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SSL----ALTTSYSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EDHPYARLNEHFDVVADKİRNVKERGGKTLVHCMAGVSRSASLVMIYLVKHEHMTLRQAY 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NDSFCEKILPWLDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRNDMSLDEAY 271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NVGVLGOMSEINDHLYLS-GAGVLKPDKIKORKINMIVNATTEEPS-TYMOGVDTMKIRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NIG----PTRILENLYLGCQRDYLNKELIQQNGIGYVLNASYTCPKEDFIPESHFLRVPV
                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
                                                                                                                                                                                             6.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    243
                                                                                                                                                                                47;
                                                                                                                                                                            Score 233.5; DB 2;
Pred. No. 7.7e-08;
47; Mismatches 80;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 239.5; DB 2; Pred. No. 4.2e-08; 45; Mismatches 110;
                                                                                                                                                                                                             Length 226;
                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 272;
                                                                                                                                                                            33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23;
                                                                                                                                                                        Gaps
                                                                     279
                                                                                                      73
                                                                                                                                         219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
```

```
Ś
                                                                             밁
                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                         protein tyrosine phosphatase - fission yeast (Schizosaccharomyces pombe) (1Species: Schizosaccharomyces pombe C;Species: Schizosaccharomyces pombe C;Date: 03.Dec-1999 #sequence_revision 03-Dec-1999 #text_change 03-Dec-1999 C;Accession: T39698
R;Wood, V.; Skelton, J.; Churcher, C.M.; Rajandream, M.A.; Barrell, B.G. submitted to the EMBL. Data Library, July 1999
                                                                                                                                                                                                                                           A; Map position:
                                                                                                                                                                                                                                                                                                 A;Cross-references: EMBL:AL109652; PIDN:CAB51765.1; GSPDB:GN00067
A;Experimental source: strain 972h-; cosmid c17A3
                                                                                                                                                                                                                                                                      A;Gene:
                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: DNA
A; Residues: 1-330 < WOO>
                                                                                                                                                                                                                                                                                                                                                                                 A:Status: preliminary; translated from GB/EMBL/DDB
                                                                                                                                                                                                                                                                                                                                                                                                                  A;Reference number: Z21870
A;Accession: T39698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Introns: 30/3; 57/3; 85/3; 125/3; 172/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: EMBL:U40939; NID:g1072175; PID:g1072176; PIDN:AAA81700.1; CESP:F13D11C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Status: preliminary; translated from GB/EMBL/DDBJA;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-186 <FUL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             submitted to the EMBL Data Library, November 1995
A;Description: The sequence of C. elegans cosmid F13D11.
A;Reference number: $69020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 14
T16056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Gene: CESP:F13D11.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Accession: T16056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R; Fulton,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hypothetical protein F13D11.3 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change C;Accession: T16056
                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                      Query Match
Best Local :
                                                                                                                                                                                                                                                                                            Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15
                                                                                                                                                                                                                                                                    pi041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
220 LPWLDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRP 279
                                                                                                      160 TRILPNLYLGCQRDVLNKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKI
                                                              48 SEISKNIYISSWKTASELVSTSDKGIDYTLSAMSINPNLS-VPEQQHLWLQIEDSSSQNI 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             277 KRPTISPNENFLGQLLDYEKKIKNQTGA---SGPKSKLKLLHLEKPNEPVPAV 326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     126 VRPIISPNIGFWROMIDFEKORNGNASVELISGRMAR------PVPSV 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  217 EKILPWLDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKE 276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              160 TRILPNLYL---GCQRDVLNKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFC 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12 TQVRPHLFLAGYGC----TTPSLLKQYNITHGVDCTNLKTKP--IKGLDRIEVPVDDNTL 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             134
                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               l Similarity 32.9
57; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AKITQYFEPVVKYIEDAKQQGHNTVIYCAAGVSRSATLTIVYLMVTENLSLEEAYLQVNQ 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----DVYLNIAI----PARPAS----PEQDPNMIPDEPRERRNSG 206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PPCADSATSEAAGQRPVHPASVPSVPSVQPSLLEDSPLVQALSG 382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MVRPNLGFWRQLIAYEQNVKENAGS-----VRLVRDEAQPEQLLE--
                                                                                                                                                                         6.5%; Score 223.5; DB 2 39.3%; Pred. No. 5.9e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6.6%; Score 225.5; DB 2
32.9%; Pred. No. 1.9e-07;
ative 34; Mismatches 59
                                                                                                                                                         18;
                                                                                                                                                     Mismatches
                                                                                                                                                                                          DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 2;
                                                                                                                                                       63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             59;
                                                                                                                                                       Indels
                                                                                                                                                                                             Length 330;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     186;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23;
                                                                                                                                                  1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      23-Mar-2001
                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5
```

Db 107 LQYFEKSNKFIAFALSKNAKVLVHCFAGISRSVTLVAAYLMKENNWNTEEALSHINERRS 166
Qy 280 TISPNFNFLGQLLDY 294
||||||||||||
|| b 167 GISPNANFLRQLRVY 181

Search completed: June 21, 2004, 13:23:21
Job time: 23.6939 secs

This Page Blank (115040)

```
OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                  Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                               Minimum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Run on:
                                                                                                                                                                                                                                                                                                                                                                                  Database
                                                                                                                                                                                                                                                                                                                                                                                                                                       Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Total number
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Scoring table:
                                                                                                                                                   No.
  1224200111111111
                                                                                                                                                                                             and is
                                                                                                                                                                                                             Pred. No.
         2380
1379.5
1327
1304
1038
1038
610
611
610
497.5
                                                                                                      3163
3079.5
                                                                                                                        3399
3379.5
                                                                                                                                                                                                                                                                                                                                                                                                                                      BB BB
                                                                                                                                                 Score
                                                                                                                                                                                                                                                                                                                                                                                                                                     веq
                                                                                                                                                                                            No. is the number of results predicted by chance to have a greater than or equal to the score of the result being printed, s derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein search,
                                                                                                                                                                                                                                                                                                                                                                                                                                     length: 0
length: 2000000000
                                                                                                                                                                                                                               9:
10:
11:
12:
13:
14:
15:
16:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            June 21, 2004, 13:15:22 ; Search time 52.2647 Seconds (without alignments) 4014.554 Million cell updates/sec
                                                                                                                                                  Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                        SPTREMBL_
1: sp_arc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1017041 seqs,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-029-345A-109
3418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MAHEMIGTQIVTERLVALLE......LGKVGSQSSFSGSMEIIEVS
Copyright
                                                                                                                                                                                                                                                                                                                                                              sp_archea:*
sp_bacteria:*
                                                                                                                                                                                                                                                               sp_rodent:*
sp_virus:*
sp_vertebrate:*
                                                                                                                                                                                                                                                                                                                                            sp_tungi:*
                                                                                                                                                                                                                                                                                          sp_phage:*
sp_plant:*
                                                                                                                                                                                                                                                                                                            sp_organelle:*
                                                                                                                                                                                                                                                                                                                    sp_mhc:*
                                                                                                                                                                                                                                                                                                                              sp_mammal:*
                                                                                                                                                                                                                                                                                                                                       sp_invertebrate:*
                                                                                                                                                                                                                                     sp_unclassified:*
sp_rvirus:*
sp_bacteriap:*
                                                                                                                                                                                                                              sp_archeap:*
                                                                                                                                                                                                                                                                                                                                                       fungi:
GenCore version (c) 1993 - 2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                using
                                                                                                                                                   BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gapext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 315518202 residues
 13
13
13
Q86SS8
Q7TSZ9
Q9AG15
Q9AG15
Q8ST19
Q96QS2
Q8ST18
Q7SZF3
Q7TZL9
                                                                                                      Q96N49
Q8IVT8
Q8N5T1
Q920R2
                                                                                                                                                    딩
                                                                             Q99MG6
Q99MG5
Q9AG16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.5
                                                                                                                                                                            SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mode1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5.1.6
Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1017041
               Q96n49 homo sapien
Q8ivt8 homo sapien
Q8ivt8 homo sapien
Q8ivt8 homo sapien
Q920r2 mus musculu
Q99mg5 mus musculu
Q99mg5 mus musculu
Q9ag16 mus musculu
Q86s88 homo sapien
Q7tsz9 mus musculu
Q9ag15 mus musculu
Q9ag15 mus musculu
Q9ag15 mus musculu
Q8bz264 mus musculu
Q8bz264 mus musculu
Q8cg2 homo sapien
Q8cg2 homo sapien
                                                                                                                                                  Description
Q7szf3
Q7t219
brachydanio
gallus gall
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             665
```

1

ALIGNMENTS

45	44	43	42	41		39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
287	287	292.5	306	319.5	324.5	339	351.5	351.5	391.5	406	406	412	413	415	415.5	421	424	427.5	431	431.5	433.5	437	439.5	445	445	44	458.5	469
8.4	8.4	8.6	9.0	9.3	9.5	9.9	10.3	10.3	11.5	11.9	11.9	12.1	12.1	12.1	12.2	12.3	12.4	12.5	12.6	12.6	12.7	12.8	12.9	13.0	٠	13.1	13.4	13.7
1193	1045	369	177	476	476	303	411	411	354	452	452	436	318	360	353	367	367	378	362	369	369	382	398	411	368	383	439	483
IJ	ഗ	u	11	v	ហ	4	(J)	ហ	4	11	11	H	11	13	13	11	11	13	13	13	13	13	11	4.	4	13	ம	11
BOWIBD	Q9NKY1	044128	Q9CSL5	8AHA6Ö	046122	Q9NSW1	SMAA60	Q95SV1	Q8N4A4	Q7TNL7	Q8K1S9	Q99KC2	Q80ZN1	Q7ZVL8	042253	Q63683	Q64193	Q91663	Q803B2	Q90W58	Q91790	Q7T2L8	Q8BFV3	Q13649	Q8NFJ0	Q8UW48	Q8IG35	Q8R3L3
Q8imu8 drosophila	Q9nky1 drosophila	O44128 caenorhabdi	Q9csl5 mus musculu		O46122 drosophila		Q9vvw5 drosophila	Q95sv1 drosophila	Q8n4a4 homo sapien	Q7tnl7 mus musculu	Bnu	mus		8 brac		rattus nor			brachyda		Q91790 xenopus lae	Q7t2l8 brachydanio		homo	3	gug (Q8ig35 caenorhabdi	

RESULT Q9014 Q9014 AC Q90 InterPro; IPR000340; DS phosphatase. InterPro; IPR000343; MAPK_phosph. InterPro; IPR00163; Rhodanese-like. InterPro; IPR00163; Rhodanese-like. InterPro; IPR00187; TR_phosphatase. Pfam; PF00782; DSPc; 1. Pfam; PF00782; DSPc; 1. PFNNTS; PR01764; MAPKPHPHTASE. SMART; SM00195; DSPc; 1. SMART; SM00195; RHOD; 1. SMART; SM00450; RHOD; 1. Q96N49 PRELIMINARY; PRT; 665 AA. Q96N49; PREMBLrel. 19, Created) 01-DEC-2001 (TrEMBLrel. 19, Last sequence update) 01-OCT-2003 (TrEMBLrel. 25, Last annotation update) Tashiro H., Yamazaki M., Watanabe K., Kumagai A., Itakura S., Fukuzumi Y., Fujimori Y., Komiyama M., Sugiyama T., Irie R., Otsuki T., Sato H., Wakamatsu A., Ishii S., Yamamoto J., Isono Y., Kawai-Hio Y., Saito K., Nishikawa T., Kimura K., Yamashita H., Kamda K., Wagatsuma M., Matsuo K., Nakamura Y., Sekine M., Kikuchi H., Kanda K., Wagatsuma M., Murakawa K., Kanehori K., Takahashi-Fujii A., Oshima A., Sugiyama A., Kawakami B., Suzuki Y., Sugano S., Nagahari K., Masuho Y., Nagai K., "NEDO human cDNA sequencing project."; Submitted (OCT-2001) to the EMBL/GenBank/DDBJ EMBL; AKOS5973; BAB71060.1; HSSP; O16828; 1MKP. Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. SEQUENCE FROM N.A. Hypothetical protein FLJ31411. Homo sapiens (Human). [sogai T.; NCBI_TaxID=9606; GO:0016787; F:hydrolase activity; IEA. GO:0017017; F:MAP kinase phosphatase activity; IEA. GO:0006470; P:protein amino acid dephosphorylation; IEA. databases

```
RESULT
QBIVES
ID VES
AC QB
AC QB
AC QB
DT 01
DT 01
DT 01
DE Si
OS HO
OC MA
OX NC
RN [1]
                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                   당
                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                     망
                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
              QBIVT8
QBIVT8;
QBIVT8;
QBIVT8;
QBIVT8;
QBIVT8;
QBIVT8;
QBIVT8;
QBIVT8;
QBIVT8;
QBIVT8;
QBIVT8;
QBIVT8;
QBIVT8;
QBIVT8;
QBIVT8;
QBIVT8;
QBIVT8;
QBIVT8;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
QBIVT9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SARBB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
Matches 662
  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROSITE; PS00383; TYR_PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR_PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR_PHOSPHATASE_DUAL; 1.
HYDothetical protein; Hydrolase.
SEQUENCE 665 AA; 73058 MW; 1EAEODFF084
                                                                                                                                                                                                                661
                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         al Similarity
662; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
FROM N.A
                                                                                                                                                                                                               IIEVS
                                                                                                                                                                                                                                                       OKPSDRADSRRSWHEESPFEKOFKRRSCOMEFGESIMSENRSREELGKVGSOSSFSGSME
                                                                                                                                                                                                                                                                                                       н
                                                                                                                                                                                                                                        IIEVS
                                                                                                                                                                                                                                                                                                                                                              ŚKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                              SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DKYLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSENSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILBAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                               665
                                                                                                                                                                                                                                       665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 3399; DI
Pred. No. 3.1e.
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1EAEODFF08460DFF
                              Vertebrata;
i; Hominidae;
                                                                                                 update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3.1e-252;
hes 2;
                                                                                update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CRC64;
                                         Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                        660
                                                                                                                                                                                                                                                                               660
                                                                                                                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
              8
                                               음 성
                                                                                          밁
                                                                                                                     Ş
                                                                                                                                                                                                  당 양
                                                                                                                                             유
                                                                                                                                                                                                                                                                                정 유
                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                      뭐
                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
```

```
A Straubergy R.;

L Submitted (DEC-2002) to the EMBL/GenBank/DDBJ databases.

R EMBL; BC042101; AMA42101.1; -.

R GO; GO:0017017; F:MAB kinase phosphatase activity; IEA.

R GO; GO:0016470. P:protein amino acid dephosphorylation; IEA

InterPro; IPR00340; DS phosphatase.

R InterPro; IPR00340; DS phosphatase.

R InterPro; IPR008343; MAPK phosph.

R InterPro; IPR000387; TTR phosphatase.

PRINTS; PF00782; DSPc; 1.

DR PFAm; PF00781; Rhodanese; 1.

PRINTS; PR01764; MAPKPHHTASE.

PRINTS; PR01764; MAPKPHHTASE.

PR SMART; SM00155; DSPc; 1.

DR PROSITE; PS03083; TTR PHOSPHATASE 1; 1.

PR PROSITE; PS03083; TTR PHOSPHATASE 2; 1.

DR PROSITE; PS03083; TTR PHOSPHATASE DUAL; 1.

SQ SEQUENCE 662 AA; 77818 MW; 350534EF0652B98F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 660; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FISSUE=Duodenum;
               661
                               598
                                              601
                                                               538
                                                                             541
                                                                                              478
                                                                                                             481
                                                                                                                                            421
                                                                                                                                                             359
                                                                                                                                                                           361
                                                                                                                                                                                                         301
                                                                                                                                                                                           301
                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                        61
IIEVS
                                                                                                                                                                                                                                                                                                                                                        ш
                                                                                                                                                                                                                                                                                                                                                                        \vdash
               IIEVS
                         QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGS
                                  OKPSDRADSRRSWHEES$FEKQFKRRSCOMEFGESIMSENRGREELGKVGSQSSFSGSME
                                                      $$$$DALEYYKP$TTLDGTNK1.CQF$PVQEL$BQTPET$PDKEEA$IPKK1.QTARP$D$Q
                                                                                                                                                     98.9%;
ilarity 99.2%;
Conservative
662
              665
                                                                                                                                                                                                                                                                                                                                                                                           Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                  core 3379.5;
red. No. 9.6e
Mismatches
                                                                                                                                                                                                                                                                                                                                                                                        5; DB 4;
1.6e-251;
                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IEA
                                                                                                                                                                                                                                                                                                                                                                                ų,
                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                       660
                                                        597
                                                                      600
                                                                                       537
                         657
                                                                                                      540
                                                                                                                      477
                                                                                                                                      480
                                                                                                                                                      417
                                                                                                                                                                     420
                                                                                                                                                                                     358
                                                                                                                                                                                                    360
                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                 60
```

۲;

```
RESULT RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF RESULT OF
                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                             ર્ફ
                                                                                          밁
                                                                                                                          ક
                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 613; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (JUN-2002) to the EMBL/GenBank/DD EMBL; BC031643; AAH31643.1; -. GO; GO:0017017; F:MAP kinase phosphatase ac GO; GO:0006470; P:protein amino acid dephos InterPro; IPR000340; DS phosphatase.

InterPro; IPR000343; MAPK phosph.

InterPro; IPR000347; TYR phosphatase.
Pfam; PF00782; DSPc; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q8NST1
Q8NST1;
01-OCT-2002
01-OCT-2002
01-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS; PRO1764; MAPKPHPHTASE.

SMART; SM00195; DSPC; 1.

PROSITE; PS00038; TYR_PHOSPHATASE_1; 1.

PROSITE; PS50056; TYR_PHOSPHATASE_DUAL;

PROSITE; PS50054; TYR_PHOSPHATASE_DUAL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Strausberg R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. TISSUE=Brain, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hypothetical protein (Fragment)
Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    w
481
                                       530
                                                                                          421
                                                                                                                                                                                     361
                                                                                                                                                                                                                                 410
                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                           350
                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                        290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            110 KLEKSFNSVHLLAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  50)CSKLMKRRLQQDKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                        KSAGLGLKGWHSDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLFT
                                                                                                                   KLQTARPSDSQSKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSPLFGLSTSQQHLT
                                                                                                                                                                                                             SASMAASLHGFSSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPK
                                                                                                                                                                                                                                                                                                        AGQRPVHPASVPSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSY
                                                                                                                                                                                                                                                                                                                                                                          QLLDYEKKIKNQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEA
                                                                                                                                                                                                                                                                                                                                                                                                       QLLDYEKKI KNQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IEKAKASNGCYLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KLEKSFNSVHLLAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CSKLMKRRLQQDKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLG
                                                                                                                                                                                     SASMAASLHGFSSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPK
                                                                                                                                                                                                                                                                             AGORPVHPASVPSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSY
                                                                                             KLQTARPSDSQSKRLHSVRTSNSGTAQRSLLSPLHRSGS'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 616 AA; 67636 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (TrEMBLrel. 22, Created)
(TrEMBLrel. 22, Last sequence update)
(TrEMBLrel. 25, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Lung;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          92.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 3163; DB 4;
Pred. No. 3.7e-234;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2CB0B14482F2AD72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   dephosphorylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ٠.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         activity;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  616;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                   469
                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                              409
                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                        349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          109
                                            589
                                                                                          480
                                                                                                                                      529
                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
```

```
RESULT IO 2007 OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY
                                    5
                                                                                                 닭
                                                                                                                                              δ
                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
밁
                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                    吊
                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local S
Matches 599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Masuda K., Shina H., Watanabe M., Kikuchi
"MKP-7, a Novel Mirogen-activated Protein.";
J. Blol. Chem. 276:39002-39011(2001).
EMBL; ABO52157; BABA7240.1; -.
HSSP, Q16828; IMKP.
MGD; MGI:1917936; Dusp16.
GO; GO:0005513; F:protein binding; IPI.
GO; GO:0005515; F:protein binding; IPI.
GO; GO:0005515; F:protein binding; IPI.
GO; GO:0005034; C:nucleus; IDA.
GO; GO:0000188; P:inactivation of MAPK; ID
InterPro; IPR000340; DS phosphatase.
InterPro; IPR00340; MAPK, Dhosph.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; Rhodanese-like.
INTERPRO1782; DSPC; 1.
Pfam; PP00782; DSPC; 1.
Pfam; PF00782; DSPC; 1.
PRNITTS; SM00195; DSPC; 1.
PRNSITE; PS00383; TYR PHOSPHATASE.
SMART; SM00195; DSPC; 1.
PROSITE; PS00383; TYR PHOSPHATASE_1; 1.
PROSITE; PS00383; TYR PHOSPHATASE_2; 1.
PROSITE; PS50056; TYR PHOSPHATASE_DUAL; 1.
PROSITE; PS50056; TYR PHOSPHATASE_DUAL; 1.
PROSITE; PS50056; TYR PHOSPHATASE_DUAL; 1.
PROSITE; PS50056; TYR PHOSPHATASE_DUAL; 1.
PROSITE; PS50056; TYR PHOSPHATASE_DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-DEC-2001 (TrEMBLrel. 19, C
01-DEC-2001 (TrEMBLrel. 19, I
01-OCT-2003 (TrEMBLrel. 25, I
MAP kinase phosphatase-7.
DUSP16 OR 3830417M17RIK OR MK
Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleosto
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q920R2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=21486429; PubMed=11489891;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FISSUE=Cerebellum;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     590
                                               181
                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 650
                                                                                                                                                   121
181
                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                         599;
                                                                                                                                                                                                                                                                                                                                                       _
                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                             DKYLITELIQHSAKHKYDIDCSQKVVYYDQSSQDVASLS9DCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GSQSSFSGSMEIIEVS
                               QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                               DKVLITELIQHSAKHKVDIDCNQKVVVYDQSSQDVGSLSSDCFLTVLLGKLERSFNSVHL
                                                                                                                                                                                                                                                                                                       MAHEMIGTQIVTESIVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GSQSSFSGSMEIIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGDQVYSVRRRQKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGDQVYSVRRRQKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKV
QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          72695 MW; DB609FCDAD4AA309 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                      90.1%; Sc
90.1%; Pr
tive 28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MKP-7.
                                                                                                                                                                                                                                                                                                                                                                                                      Score 3079.5;
Pred. No. 1.1e-
28; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Last sequence up
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kikuchi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                         .1e-227;
1ев 33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         K.;
Kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Phosphatase,
                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                             660;
                                                                                                                                                                                                                                                                                                                                                                                                           <u>ت</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mus
                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
     240
                                                    240
                                                                                                    180
                                                                                                                                                      180
                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        649
```

```
"A Novel MKP is an Important Negative Regular Activation in Macrophages.";
Mol. Cell. Biol. 20:6999-7009(2001).

EMBL; AF345951; AK35052.1; -.

HSSP; Q16828; 1MKP.

MGD; MGI:1917936; Dusp16.

GO; GO:0005737; C:cytoplasm; IDA.
GO; GO:0005534; C:nucleus; IDA.
GO; GO:0005515; F:protein binding; IPI.
GO; GO:0005515; F:protein binding; IPI.
GO; GO:0005816; P:protein binding; IPI.
InterPro; IPR000340; DS phosphatase.
InterPro; IPR000340; DS phosphatase.
InterPro; IPR000343; MAPK Dhosph.
InterPro; IPR000387; TYR_phosphatase.
Pfam; PF00782; DSPC; 1.

Pfam; PF00782; DSPC; 1.

PRINTS; RN01764; MAPKPHPHTASE.
SMART; SM00155; DSPC; 1.

PROSITE; PS50206; RHODANESE 3; 1.

PROSITE; PS50206; RHODANESE 3; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                       01-JUN-2001 (TrEMBLrel. 17, C
01-JUN-2001 (TrEMBLrel. 17, L
01-OCT-2003 (TrEMBLrel. 25, L
Map kinase phosphatase-M A1 i
DUSP16 OR 3830417M1/RIK.
                                                                                                                                                                                                                                                                                                                              Q99MG6;
Q99MG6;
01-JUN-2001
01-JUN-2001
01-OCT-2003
                                                                                                                                                                                                                  STRAIN=BALB/c;
Matsuguchi T., Musikacharoen
Yoshikai Y.;
                                                                                                                                                                                                                                                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                  NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                          ហ
                                                                                                                                                                                                                                                                                                                                                                                                                       656
                                                                                                                                                                                                                                                                                                                                                                                                                                       199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                      IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                    IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                    QKPTDRADŚRRSWHEESPFEKOFKRRSCONEFGESINSENRSREELGKVGSOSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OKPSDRADSRRSWHEESPFEKOFKRRSCOMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VTŘLHSVŘŤGŠSGSTQŘPFFSPLHRSGSVÉDNYHTNFLFGLSTSQQRLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNVHTSFLFGLGTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              - ŚŚEBAĹDÝCKPŚAŤĹĎĠŤŃKĹĆQPŚPVQEVŚEQSPETŚPĎKEBAHĮPKQPQPPRPŚEŚQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ÓTGMŚGÞŔŚKĹKĹĹHĹDKÞSEÞVÞAASEGGWKSALSĹŚÞÞCANS-TŚEASGÓRLVHÐÁ--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OTGASGPKSKLKLLHLEKPNEPVPAVSEGGOKSETPLSPPCADSATSEAAGGRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                        665
                                                                                                                                                                                                                                                                                                                                                                                                                      660
                                                                                                                                                                                                                                                                          Chordata;
Rodentia;
                                                                                                                                                                                                                        T.,
                                                                                                                                                                                                                                                                                                                         Last sequence up
                                                                                                                                                                                                                                                                                                                   isoform
                                                                                                                                                                                                                                                                                                                                                 Created)
                                                                                                                                                                                                                                                                       Craniata; Vertebrata; |
Sciurognathi; Muridae;
                                                                                                                                                                                                                       Johnson T.R.,
                                                                                                                                                                                                                                                                                                                                                                   677
                                                                                                                                                                                                     Regulator
                                                                                                                IDA.
                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                    update)
                                                                                                                                                                                                                                                                                                                         update)
                                                                                                                                                                                                                        Kraft
                                                                                                                                                                                                     0f
                                                                                                                                                                                                    LPS-mediated
                                                                                                                                                                                                                                                                      Euteleostomi;
; Murinae; Mus.
                                                                                                                                                                                                                        A.S.,
                                                                                                                                                                                                    ŽXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                    655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
```

```
밁
              δÃ
                             Ъ
                                            δ
                                                               B
                                                                             δ
                                                                                             Ъ
                                                                                                          δ
                                                                                                                             밁
                                                                                                                                        Ś
                                                                                                                                                           밁
                                                                                                                                                                       Ś
                                                                                                                                                                                       밁
                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                              SARR
                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 531
                                                                                                                                                                                                                                                                                                                                                                        PROSITE; PS50056; TYR PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR PHOSPHATASE DUAL;
Hydrolase; Kinase.
SEQUENCE 677 AA; 74550 MW; 8B6D5B709
   596
                 601
                                 536
                                               541
                                                                476
                                                                              481
                                                                                             417
                                                                                                            421
                                                                                                                           358
                                                                                                                                          361
                                                                                                                                                          301
                                                                                                                                                                        301
                                                                                                                                                                                       241
                                                                                                                                                                                                      241
                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                              531;
                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                 61
       QKPSDRADSRRSWHEESPFEKQFKRRSCQ 629
                                  SDILAPOTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSOLPTCGDQVYSVRRR
SDILAPQSSAPSLTSSWYFATEPSHLYSASAIYGGNSSYSAYSCGQLPTCSDQIYSVRRR
                                                        VTRLHSVRTGSSGSTQRPFFSPLHRSGSVEDNYHTNFLFGPFHQPATPHQVCRAWLKGWH
                                                                 SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                     SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                 PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKGVSYSASMAASLHGF
                                                                                                                                                   QTGMSGPKSKLKLLHLDKPSEPVPAASEGGWKSALSLSPPCANS-TSEASGQRLVHPA--
                                                                                                                                                                                                               - SVPSLQPSLLEDSPLVQALSGLQLSSEKLEDSTKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                            QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                             LAGGFAEFSRCFPGLCEGKSTLVPTCISOPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                 79.6%; Score 2721.5;
84.4%; Pred. No. 3.5;
                                                                                                                                                                                                                                                                                                                                             36;
                                                                                                                                                                                                                                                                                                                                                                        8B6D5B7096CEC2FC CRC64;
                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                       ۲.
                                                                                                                                                                                                                                                                                                                                         5; DB 11; Length
.5e-200;
es 57; Indels
                                                                                                                                                                                                                                                                                                                                                         677;
                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                         Gaps
                            595
                                          600
                                                         535
                                                                        540
                                                                                        475
                                                                                                      480
                                                                                                                      416
                                                                                                                                    420
                                                                                                                                                   357
                                                                                                                                                                                                300
                                                                                                                                                                                                               240
                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                           60
```

```
RESULT Q99MG5 FAC Q99MG5 PAC Q9 PT 011 DT 011 DT 011 DT 011 DT 011 DE Mu OC Mu OC Mu OC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC Mu COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU COC MU CO
                                                                                                                                                                                                                                                                       Q99MG5
Q99MG5
Q99MG5
Q99MG5,
Q99MG5,
Q1-JUN-2001 (TrEMBLrel. 17, Crea
Q1-JUN-2001 (TrEMBLrel. 25, Last
Q1-OCT-2003 (TrEMBLrel. 25, Last
Map kinase phosphatase-M A2 isof
MUSP16 OR 3830417M17RIK.
Mus musculus (Mouse).
Eukaryota, Metazoa; Chordata; C1
Mammalia; Eutheria; Rodentia; S(
                         Matsuguchi
Yoshikai Y.
"A Novel MK
                                                                                                                               SEQUENCE FROM N
STRAIN=BALB/c;
                                                                                                                                                                                                                                                      NCBI_TaxID=10090;
                             MKP
                                                                            T., Musikacharoen
                         18
                 an
                 Important
                                                                                .
                                                                                                                                                                                                                                                                                                                                                                                                                                                  isoform.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Last sequence up
    Negative
                                                                                                                                                                                                                                                                            Craniata; Vertebrata; | Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                     Johnson
Regulator
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     622
                                                                            T.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    e update)
on update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                Kraft
        ę,
LPS-mediated
                                                                                                                                                                                                                                                                       Euteleostomi;
; Murinae; Mus
                                                                                A.S.
```

```
ફ
                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                          . 8
                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ક
                5
                                              음 중 음
                                                                                                            중 유
                                                                                                                                                            ঠ
                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 476; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE; PS50206; RHÓDANESE 3; 1.

PROSITE; PS00383; TYR_PHOSPHATASE 1; 1.

PROSITE; PS50056; TYR_PHOSPHATASE 2; 1.

PROSITE; PS50054; TYR_PHOSPHATASE_DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRINTS; PR01764; MAPKPHPHTASE. SMART; SM00195; DSPC; 1. SMART; SM00450; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR000387; TYR_phosphatase.
Pfam; PF00782; DSPc; 1.
Pfam; PF00581; Rhodanese; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR000340; DS phosphatase.
InterPro; IPR001843; MAPK phosph.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR000387; TYR_phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; AF345952; AAK35053.1; -.
HSSP; Q16828; IMKP.
MGD; MGI:1917936; Dusp16.
GO; GO:0005737; C:cytoplasm; IDA.
GO; GO:0005534; C:nucleus; IDA.
GO; GO:0005515; F:protein binding; IPI.
GO; GO:0005515; P:inactivation of MAPK;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hydrolase;
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Activation
                                                                                                                                                                                            303
                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                            246
                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                         186
                                                                                              421
                                                                                                                     481
                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                         126
                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                121 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                              19
                                                                                                                                                                                                                                                                                                                                                      QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                         PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                        QKPTDRADSRRTGMKRAPLKSSLNAEAAK 569
                      QKPSDRADSRRSWHEESPFEKQFKRRSCQ 629
                                                           SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                             VTRLHSVRTGSSGSTQRPFFSPLHRSGSVEDNYHTNFLFGPFHQPATPHQVCRAWLKGWH
                                                                                                           SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                          -SSEEALDYCKPSATLDGTNKLCQFSPVQEVSEQSPETSPDKEEAHIPKQPQPPRPSESQ
                                                                                                                                                          SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                         QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                       DRVLITELIQHSAKHKVDIDCNQKVVVYYDQSSQDVGSLSSDCFLTVLLGKLERSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                     DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MAHEMIGTQIVTESLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kinase.
622 AA; 68672 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    in Macrophages."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    69.6%;
llarity 75.7%;
Conservative 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20:6999-7009(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       36;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 2380; DI
Pred. No. 5.2e
36; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6C0CA4E6E9099B98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .2e-174;
ies 57;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 622;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60;
                                                                                                                                                                                                                                                                                                                                                                                        MIG---
                                              540
                                                                      600
                                                                                              480
                                                                                                                    540
                                                                                                                                            420
                                                                                                                                                                  480
                                                                                                                                                                                           361
                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                           302
                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                         245
                                                                                                                                                                                                                                                                                                                                         185
                                                                                                                                                                                                                                                                                                                                                                                        125
                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
```

```
S
                                                   밁
                                                                          ð
                                                                                                      밁
                                                                                                                               Ś
                                                                                                                                                            밁
                                                                                                                                                                                 Ş
                                                                                                                                                                                                                문
                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                        Query Match
Best Local S
Matches 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   O9AG16 PRELIMINANI,
O9AG16;
O1-UN-2001 (TrEMBLrel. 17, Cr
O1-UN-2001 (TrEMBLrel. 17, La
O1-OCT-2003 (TrEMBLrel. 25, La
'--- binne phosphatase-M Bl i
                                                                                                                                                                                                                                                                                                                                                                          Pfam; PF00782; DSPC; 1.

Pfam; PF00782; Rhodanese; 1.

Pfam; PF00581; Rhodanese; 1.

PRINTS; PR01764, MARKHPHTASE.

SMART; SM00195; DSPC; 1.

SMART; SM00195; DSPC; 1.

SMART; SM00450; RHOD, 1.

SMART; SM00450; RHOD, 1.

PROSITE; PS500383; TYR PHOSPHATASE 1; 1.

PROSITE; PS50056; TYR PHOSPHATASE 2; 1.

PROSITE; PS50054; TYR PHOSPHATASE DUAL; 1.

PROSITE; PS50054; TYR PHOSPHATASE DUAL; 1.

Hydrolase; Kinase.

SEQUENCE 355 AA; 39502 MW; D52C29AE215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "A Novel MKP is an Important Negative Regulativation in Macrophages.";
Mol. Cell. Biol. 20:6999-7009(2001).

EMBL; AP345953; AAX35054.1; -.
HSSP; Q16828; 1MKP.
HSSP; Q16828; 1MKP.
G0; G0:0005737; C:cytoplasm; IDA.
G0; G0:0005737; C:nucleus; IDA.
G0; G0:0000534; C:nucleus; IDA.
G0; G0:0005515; F:protein binding; IPI.
G0; G0:0005515; P:inactivation of MAPK; ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Map kinase phosphatase-M
DUSP16 OR 3830417M17RIK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=BALB/c;
Matsuguchi T., Musikacharoen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR000340; DS phosphatase.
InterPro; IPR008343; MAPK phosph.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR000387; TYR phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7
301
                          290
                                                   241
                                                                              241
                                                                                                          181
                                                                                                                                  181
                                                                                                                                                            121
                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                        273;
                                                                                                                                                                                                                61
                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                               μ
                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                            LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                               DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVBYNTSHILEAININCSKLMKRRLQQ
 AKWNLERALCRRTGPGRSWARWAASPAS
                          QLLDYEKKI KNQTG-----
                                                                 QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                       QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                    MAHEMIGTQIVTESLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                            LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKDLM
                                                                                                                                                                                                                                                                                                                         Conservative
                                                     SRSATIAIAYIMKRMDMSLDEAYRRQKPTDRADSRRTGMKRAPLKSSLNAEA
                                                                                                                                                                                                                                                                                                                                                                             39502 MW; D52C29AE215CA285 CRC64;
                                                                                                                                                                                                                                                                                                                                    40.4%;
                                                                                                                                                                                                                                                                                                                        13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .
;
                                                                                                                                                                                                                                                                                                                        Score 1379.5; DB
Pred. No. 1.5e-97;
3; Mismatches 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Negative Regulator
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                            -ASGPKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Johnson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           355
                                                                                                                                                                                                                                                                                                                                                                                                        ٠.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                T.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ₿
                                                                                                                                                                                                                                                                                                                                                 DB 11; Length
                                                                                                                                                                                                                                                                                                                        23; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kraft A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        e
E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LPS-mediated
                                                                              -KRPTISPNFNFLG
                                                                                                                                                                                                                                                                                                                         19;
                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                      180
                                                                                                                                                            180
                                                                                                         240
                                                                                                                                  240
                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                     60
```

```
Ş
                                                                                                              В
                                                                                                                                                  Ş
                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESSILT QRESS
                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                ં ફ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REMEL, BC045110; AAH45110.1; Gribal Vetication/ Public Idea (1975); R GO; GO:0017017; F:MAP kinase phosphatase activity; IEA. R GO; GO:0006470; P:protein amino acid dephosphorylation; IEA InterPro; IPR00340; DS phosphatase.

R InterPro; IPR00343; MAPK phosph.

R InterPro; IPR001763; Pich extensm.

IR InterPro; IPR001763; Rhodansee like.

R InterPro; IPR001763; Rhodansee like.

R InterPro; IPR001763; TYR_phosphatase.

R FAINTS; PR01764; MAPKPHHTASE.

R FRINTS; PR01764; MAPKPHHTASE.

R FRINTS; PR01764; MAPKPHHTASE.

R FRINTS; PR01764; MAPKPHHTASE.

R FRINTS; PR01764; MAPKPHHTASE.

R FRINTS; PR01764; MAPKPHHTASE.

R FRINTS; PR01764; MAPKPHTASE.

R FRINTS; PR01501; DSPC; 1.

R SMART; SM00450; RHOD; 1.

R PROSITE; PS00383; TYR_PHOSPHATASE_1; 1.

PROSITE; PS00383; TYR_PHOSPHATASE_1; 1.

R PROSITE; PS50056; TYR_PHOSPHATASE_DUAL; 1.

R PROSITE; PS50054; TYR_PHOSPHATASE_DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-JUN-2003
01-JUN-2003
01-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Strausberg R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE=Brain, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similar to dual
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q86SS8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         88888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      æ
                                                            414
                                                                                                              351
                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                           299
                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                            239
                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                             179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Н
                                                                                                                      PVHPASVPSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASM
                                  AASLHGFSSSEDALEYYKPSTTLDGTN-----KLCQF-SP---VQELSEQTPETSPD
                                                                                              GLSAGGEPPAPTPPA---TSALQQGLRGLHLSSDRLQDTNRLKRSFSLDIKSA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                        QVIVHCLAGISRSATIAIAYINKTMGMSSDDAYRFVKDRRPSISPNFNFLGQLLEYERSL
                                                                                                                                                                                                                                                                                                                     CVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKI
                                                                                                                                                                                                                                                                                                                                                                                                                      LLAGGFAEFSRCFPGLCEGK-STLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKE
                                                                                                                                                                                                                                      KNQTGASGPKSKLKLLHLEKPN---EPVPAVSEGGQKSETPLSPPCADSAT--SEAAGQR
                                                                                                                                                                                                                                                                                                                                                                                            LMTQNGISYVLNASNSCPKPDFICESRFMRVPINDNYCEKLLPWLDKSIEFIDKAKLSSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ILTGGFATFSSCFPGLCEGKPAALLPMSLSQPCLFVPSVGLTRILPHLYLGSQKDVLNKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OGKVTIAELIQPAARSQVEATEPODVVVYDQSTRDASVLAADSFLSILLSKLDGCFDSVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QDKVLITELIQHSAKHKVDIDCSQKVVVVYDQSSQDVASISSDCFLTVLLGKLEKSFNSVH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MAGDRLPRKVMDAKKLASLLRGGPGGPLVIDSRSFVEYNSWHVLSSVNICCSKLVKRRLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MAHEMIGTQIV-TERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (JAN-2003) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (TrEMBLrel. 24, Created)
(TrEMBLrel. 24, Last sequence
(TrEMBLrel. 25, Last annotate
dual specificity phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Astrocytoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          38.8%;
45.1%;
                                                                                                                                                                                            ----TPSGTPEPPPSPAAGAPLPRLP--PPTSESAATGNAAREG
YAPSRRPDGPGPPDPGEAPKLCKLDSPSGAALGLSSPSPD-SPD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     94;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Last sequence update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 1327; DB 4;
Pred. No. 4e-93;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 625;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels 104;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
444
                                            461
                                                                                              401
                                                                                                                                             413
                                                                                                                                                                                                                                              353
                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                              238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21
```

```
RESULT 9
Q7TSZ9
ID7 07TS
AC 07TS
D7 01-0
D7 01-0
D7 01-0
D7 01-0
D7 01-0
D8 Mus
OC Euka
OC Mamm
OX NCBII
RN [1]
RP SEQU
RC STRA
RA Klau
RA Klau
RA Hopk
RA Diatt
RA Brow
RA RAIts
RA CHAP
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA RAIA
RA BIAK
RA GAI
RA BIAK
RA JOne
RT and
RT and
RT and
RT and
RT and
RT SEQU
RA SEQU
RA SEQU
RA SEQU
RA SECU
           밁
                                    Ş
                                                                             밁
                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                     RA Strausberg R.L., Peingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Schaefer C.F., Bhat N.K.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Altschul S.F., Jordan H., Moore T., Max S.I., Wang J., Heigh F.R.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Robask S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Rahey J., Helton E., Ketteman M., Wadan A., Rodrigues S., Sanchez A.,
RA Fahey J., Helton E., Ketteman M., Wadan A., Rodrigues S., Sanchez A.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
RA Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,
RA Jones S.J. Marra M A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                       Matches
                                                                                                                                                                     Ouery Match
Best Local
                                                                                                                                                                                                                               Strausberg R.;
Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
STRAIN=C57BL/6; TISSUE=Brain;
MEDLINE=22388257; PubMed=12477932;
MEDLINE=22388257; Feingold E.A., Gr
                                                                                                                                                                                                                                                                                        STRAIN=C57BL/6; TISSUE=Brain;
                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                   Jones S.J., Marra M.A.;
"Generation and initial analysis of more than 15,000 and mouse cDNA sequences.";
                                                                                                                                      Local 319;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dusp8 protein.
Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q7TSZ9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-OCT-2003
01-OCT-2003
         61
                                         60
                                                                                                                                                                                                                                                                                                                                               Natl. Acad.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       462
                                                                                                                                                                 Similarity
QKVTIAELIQPATRSQVDATEPQDVVVYDQSTRDASVLAADSFLSILLSKLDGCFDSVA
                                                                  QDKVLITELIQHSAKHKVDIDCSQKVVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVH 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEFEEG-MVEGRARGEELAALGKQASFSGSVEVIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEFGESIMSENRSR-EELGKVGSQSSFSGSMEIIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAQGAGGVLFAPFGRAGAPGPGGGSDLRRRBAARAEPRDARTGWPEEPAPETQFKRRSCQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SAIYGGSASYSAYSCSQLPTCGDQVYSVRRRQKPSDRADSRRSWHEESPFEKQFKRRSCQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AARQTPRHGLSALSAPGLPGPGQPAGPGAWAPPLDSP--GTPSPDGPWCFSPE-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   --LSTSQQHLTKSAGLGLKG------WHSDILAPQTSTPSLTSSWYFATESSHFYSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAPEARPRPRRRPRP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KEEASIPKKLQTARPSDSQSKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFG-
                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gremblrel.
Gremblrel.
Gremblrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                        A.
                                                                                                                                                                                                                  69021 MW; 9166E36A8835249F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chordata;
Rodentia;
                                                                                                                                          38.2%; Score 1304; DB 1
43.5%; Pred. No. 2.5e-91
tive 101; Mismatches 17
                                                                                                                                                                                                                                                                                                                                            U.S.A. 99:16899-16903(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Created)
Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---PAGSPAR---SPAHSLG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         665
                                                                                                                                                                            DB 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ₽
                                                                                                                                              176;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                665
                                                                                                                                                                            Length
                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                          full-length human
                                                                                                                                          138;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ----LNFGD
                                                                                                                                        Gaps
                                                                    60
                                                                                                        59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           478
```

O

```
RESULT
Q9AG15
Activation in Macrophages.";
Mol. Cell. Biol. 20:6999-7009(2001).
EMBL; AP345954; AAK35055.1; -.
HSSP; Q1628; 1MKP.
MGD; MGI:1917936; Dusp16.
GO; GO:0005737; C:cyroplasm; IDA.
GO; GO:0005534; C:nucleus; IDA.
GO; GO:0005515; F:protein binding; IPI.
GO; GO:000188; P:inactivation of MAPK; ID
                                                                                                                                                                                                                                                                                                                                                                                            Q9AG15
Q9AG15;
01-JUN-2001 (TrEMBLrel. 17, C
01-JUN-2001 (TrEMBLrel. 17, L
01-OCT-2003 (TrEMBLrel. 25, L
Map kinase phosphatase-M B2 i
DUSP16 OR 3830417M1/RIK.
                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                             Mus musculus (Mouse)
                                                                                                                                                                                                                            Matsuguchi T., Musikacharoen T.,
                                                                                                                                                                                                                                                 STRAIN-BALB/c;
                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                           NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10
                                                                                                                                                                                     Novel MKP is an Important Negative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               446 D-SVPECRPRERRRPPASSPARSPAHGLGLNFGDTARQ---TPRH--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QTSFSGSVEVIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QSSFSGSMEIIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SSSDLRRR----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QVYSVRRRQKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSR-EELGKVGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FGLSTSQQHLTKSAGL-----GLKGWHSDILAPQTSTPSLTSSWYFATESSH----FY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EASIPK---KLQTARPSDSQSKR--LHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IKSVSYSASMAASLHGFSSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | |: |:: |: ::|
EGSPSAGGDAPI-PSTAPATSALQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KLLAALQTDGP-----HLGTP-EPLMGPAAGIPLPRLP--PSTSESAATGSEAATAAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KNQTG--ASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSAT--SEAA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QVIVHCLAGISRSATIAIAYIMKTMGMSSDDAYRFVKDRRPSISPNFNFLGQLLEYERSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LMTQNGISYVLNASNSCPKPDFICESRFMRIPINDNYCEKLLPWLDKSIEFIDKAKLSSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ILTGGFATFSSCFFGLCEGKPATLPSMSLSQPCLPVPSVGLTRILPHLYLGSQKDVLNKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LLAGGFAEFSRCFPGLCEGKSTLVPT-CISQPCLPVANIGPTRILPNLYLGCQRDVLNKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IKS-AYAPSRRPDFPGPPDPGEAPKLCKLDSPSGGTLGL---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -GLSA-----LSAPGLPGPGQPAGPGGWVPPLDSP--GTPSPDGPWCFSPEGAQGPGAVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GORPVHPASVPSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLD
                                                                                                                                                                                                                                                                                                                                  Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -DVRTGWPEEPAADAQFKRRSCQMEFEEG-MVEGRARGEELAALGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SAIYGG-----
                                                                                                                                                                                                                                                                                                                                                                                                                    Created)
Last sequence update)
Last annotation update)
isoform.
                                                                                                                                                                                                                                                                                                                                  Craniata; Vertebrata; F
Sciurognathi; Muridae;
                                                                                                                                                                                                                              Johnson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                         Regulator
      IDA.
                                                                                                                                                                                                                                                                                                                                                        Vertebrata; Euteleostomi;
                                                                                                                                                                                                                            T.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----SASYSAYSCSQLPTCGD
                                                                                                                                                                                                                                Kraft
                                                                                                                                                                                         얁
                                                                                                                                                                                         LPS-mediated
                                                                                                                                                                                                                                A.S
                                                                                                                                                                                                                                                                                                                                       Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PSPSPDSP
                                                                                                                                                                                                                                                                                                                                       Mus
                                                                                                                                                                                         Ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            238
  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local S
Matches 218
The FANTOM Consortium,
the RIKEN Genome Exploration Research Group
"Analysis of the mouse transcriptome based
60,770 full-length cDNAs.";
Nature 420:563-573(2002).
EMBL; AK035652; BAC29138.1; -
MGD; MGI:109836; DEErtd213e.
GO; GO:0017017; F:MAP kinase phosphatase ac
GO; GO:0017017; P:protein amino acid dephos
InterPro; IPR001763; Rhodanese-like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPC; 1.
SMART; SM00459; RHOD; 1.
SMART; SM00459; RHOD; 1.
PROSITE; PS50266; RHODANESE 3; 1.
PROSITE; PS500383; TYR PHOSPHATASE 1; 1.
PROSITE; PS50036; TYR_PHOSPHATASE 2; 1.
PROSITE; PS50056; TYR_PHOSPHATASE_DUAL; 1
Hydrolase; Kinase.
                                                                                                                                                                                                                                                                                                                                                                                                                                     Q8BZE4
Q8BZE4;
01-MAR-2003 (TrEMBLrel. 2
01-MAR-2003 (TrEMBLrel. 2
01-OCT-2003 (TrEMBLrel. 2
                                                                                                                                                                                                                                                                                                                                                                                                           U1-MAR-2003 (TrEMBLrel. 23,
01-MAR-2003 (TrEMBLrel. 23,
01-OCT-2003 (TrEMBLrel. 25,
Truncated MAPK phosphatase 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro;
InterPro;
InterPro;
                                                                                                                                                                                                                              SEQUENCE FROM N.A.
STRAIN=C57BL/6J; TISSUE=Urinary bladder;
MEDLINE=22354683; PubMed=12466851;
                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                             NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                           Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                  D6ERTD213E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR001763; Rhodane
InterPro; IPR000387; TYR_pho
Pfam; PF00782; DSPc; 1
Pfam; PF00581; Rhodanese; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    218;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity 66.!
18; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DRVLITELIQHSAKHKVDIDCNQKVVVYDQSSQDVGSLSSDCFLTVLLGKLERSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AKWNLERALCRRTGPGRSWARWAASPAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QLLDYEKKI KNQTG-----ASGPKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MAHEMIGTQIVTESLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LIHCLAGISRSATIAIAYIMKRMDMSLDEAYRRQKPTDRADSRRTGMKRAPLKSSLNAEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IPR000340; DS_phosphatase.
IPR008343; MAPK_phosph.
IPR001763; Rhodanese-like.
IPR000387; TYR_phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                    Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                33624 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30.4%; Sc
66.5%; Pr
tive 13;
                                                                                                                                                                                                                                                                                                                                                                                                                 , Last sequence upo
, Last annotation of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the contro
                                                                                                                                                                                                                                                                                                                                                                                                                          7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 1038; DI
Pred. No. 2e-7:
L3; Mismatches
                                                                                                                                                                      Research Group
criptome based o
                                                                                                                                                                                                                                                                                                                                Craniata; Vert
Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4C61846ACDF0F456
                                          tase activity; IEA. dephosphorylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2e-71;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ۲
                                                                                                                                                                                                                                                                                                                                                        Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                              update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 11;
                                                                                                                                                                    p Phase I & II
on functional
                                                                                                                                                                                                                                                                                                                                                                                                                                         update)
                                                                                                                                                                                                                                                                                                                                       Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                         Murinae;
                                                 IEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KRPTISPNFNFLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300;
                                                                                                                                                                        annotation
                                                                                                                                                                                         Team;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    74;
                                                                                                                                                                                                                                                                                                                                         Mue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
```

245 289 185 240 125 180 120 120 60

S 밁 Ş 밁 5 ર્

片

ર્ફ 밁 δ 밁 8

밁

Ş

밁

δ

밁 8 밁

문

DE REPORTE DE LA COMPTE DEL COMPTE DE LA COMPTE DEL COMPTE DE LA COMPTE DE LA COMPTE DE LA COMPTE DE LA COMPTE DEL COMPTE DE LA COMPTE DE LA COMPTE DE LA COMPTE DE LA COMPTE DE LA COMPTE DE LA COMPTE DE LA COMPTE DE LA COMPTE DE LA COMPTE DE LA COMPTE DE LA COMPTE DE LA COMPTE DE LA COMPTE DE LA COMPTE DEL COMPTE DE LA COMPTE DE LA COMPTE DE LA COMPTE DE LA COMPTE DE

얁

```
RESULT 12

QBST19

ID QBST11

AC QBST11

AC QBST11

AC QBST11

AC QBST11

DT 01-JU

DT 01-JU

DT 01-JU

DT 01-JU

DT 01-JU

Caeno

OC Rhabdd

OX NCBI

RN 1[1]

RP SEQUE

RC STRAI

RA NORE;

RT 'Genc

RT 'Genc

RT 'The

RF SEQUE

RC STRAI

RA Chiss

RI [2]

RP SEQUE

RC STRAI

RA Chiss

RI [3]

RP SEQUE

RC STRAI

RA Chiss

RI [3]

RP SEQUE

RC STRAI

RA Chiss

RI [3]

RA Chiss

RI [1]

RA Chiss

RI The

SEQUE

RO STRAI

RA Chiss

RI The

SUMMI

RA Chiss

RI The

SUMMI

RA Chiss

RI The

SUMMI

RA Chiss

RI The

SUMMI

RA Chiss

RI The

SUMMI

RA Chiss

RI The

SUMMI

RA SEQUE

RA SING

RA Watea

DR HOSS

DR HOSS

DR HOSS

DR SWARY

DR SWARY

DR SWARY

DR SWARY

DR SWARY

DR SWARY

DR PROSS

DR PROSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SORBR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local :
                                            InterPro; IPR000340; DS phosphatase.
InterPro; IPR00843; MAFK phosph.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR000387; TYR_phosphatase.
Pfam; PF00782; DSPc; 1.
PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPc; 1.
SMART; SM00195; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q8ST19
Q8ST19;
01-JUN-2002
01-JUN-2002
01-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRINTS;
SMART; S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-UIN-2002 (TrEMBLrel. 21, Creat
01-UIN-2002 (TrEMBLrel. 21, Last
01-OCT-2003 (TrEMBLrel. 25, Last
Hypothetical protein F08B1.1a.
                                                                                                                                                                         WormPep; F08B1.la; CE27918.
GO; GO:0016787; F:hydrolase activity; IEA
GO; GO:0017017; F:MAP kinase phosphatase
GO; GO:0006470; P:protein amino acid depi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
STRAIN=Bristol N2;
MEDLINE=99069613; PubMed=9851916;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE; PS50206; RHODANESE_3; SEQUENCE 206 AA; 22566 MW;
 PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS00383; TYR PHOSPHATASE
PROSITE; PS50056; TYR PHOSPHATASE
                                                                                                                                                                                                                                          EMBL; U23178; AAK68299.1; -. HSSP; Q16828; 1MKP.
                                                                                                                                                                                                                                                                                                           Waterston
                                                                                                                                                                                                                                                                                                                     STRAIN-Bristol N2;
                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                       Submitted
                                                                                                                                                                                                                                                                                                                                                                                                    Chissoe S.;
                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN-Bristol N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Science 282:2012-2
[2]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Genome sequence of the nema investigating biology. The C Science 282:2012-2018(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rhabditidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Caenorhabditis elegans.
                                                                                                                                                                                                                                                                                           "Direct
                                                                                                                                                                                                                                                                                                                                                                                      sequence of C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PF00581; Rhodanese;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; PR01764; MAPKPHPHTASE
SM00450; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   _
                                                                                                                                                                                                                                                                       Submission.";
ed (JUN-2001) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MAHEMIGTQIVTESLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DKVLITELIQHSAKHKVDIDCNQKVVVYDQSSQDVGSLSSDCFLTVLLGKLERSFNSVHL
                                                                                                                                                                                                                                                                                                           .
.
                                                                                                                                                                                                                                                                                                                                                                       (APR-1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Peloderinae;
TYR_PHOSPHATASE_1;
TYR_PHOSPHATASE_2;
                                                                                                                                                                                                                                                                                                                                                                       elegans
) to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nematoda; Chromadorea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26.1%;
97.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                e nematode C. elegans: a platform
The C. elegans Sequencing Consor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Caenorhabditis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Last annotation
                                                                                                                                                                                                                                                                                                                                                                       cosmid F08B1.";
EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 891; DB 11;
Pred. No. 2.2e-60;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.
E7FDF5C01ADC2F73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sequence
                                                                                                                                                                             dephosphorylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           657
                                                                                                                                                                                                            IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ΑĀ
                                                                                                                                                                                             activity;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Rhabditida; Rhabditoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Consortium.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                             IEA.
                                                                                                                                                                              IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
```

RESULT Q96QS2

13

Q96QS2; Q96QS2

PRELIMINARY;

143

A

update)

update)

RRN OCC GREET DI

Homo sapiens (Human Eukaryota; Metazoa; Mammalia; Eutheria;

Chordata; Primates;

Craniata; Vo Catarrhini;

Vertebrata; i; Hominidae;

Euteleostomi;

(Human)

NCBI_TaxID=9606;

Montpetit SEQUENCE

FROM

N.A. Boily

G.

Sinnett

Ö.

01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence up
01-OCT-2003 (TrEMBLrel. 25, Last annotation
Truncated MAPK phosphatase 7.

```
8
                                               밁
                                                                  Ş
                                                                                                                      S
                                                                                                                                                                                                   밁
                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                     멂
                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                     멼
                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                         뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SQXR
                                                                                             뫄
                                                                                                                                                  B
                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE; PS50054; TYR PHOSPHATASE DUAL;
Hypothetical protein; Hydrolase.
SEQUENCE 657 AA; 71002 MW; A0D9153D1
554
                      601
                                                                          547
                                                                                                  487
                                                                                                                           487
                                                                                                                                                    448
                                                                                                                                                                            430
                                                                                                                                                                                                      406
                                                                                                                                                                                                                                                     362
                                                                                                                                                                                                                                                                               323
                                                                                                                                                                                                                                                                                                         302
                                                                                                                                                                                                                                                                                                                                284
                                                                                                                                                                                                                                                                                                                                                         242
                                                                                                                                                                                                                                                                                                                                                                                  224
                                                                                                                                                                                                                                                                                                                                                                                                          182
                                                                                                                                                                                                                                                                                                                                                                                                                                  165
                                                                                                                                                                                                                                                                                                                                                                                                                                                            123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              201;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
STPASASSSAASRCRMKGFFKVFSKKA
                                                                                                                                                                                                                      LVQALSGLHLSADRLEDSNKLKRSFSLDI------KSVSYSASMAASLHGFSSSEDALEY
                                                                                                                                                                                                                                                                                                                               NENFLGOLLDYEK----KIKNQTGASGPKSKLKLL---HLEKPNEP------
                                                                                                                                                                                                                                                                                                                                                                        LEKS--FNSVHLLAGGFAEFSRCFFGLCEGKS--TLVFTCISQFCL--FVANIGFTRILF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKV----LI
                      OKPSDRADSRRSWHEESPFEKQFKRRS
                                                  --SEPSFDFSSFESSSSSSIVVENPFFASTEVPAGSSSISTPSGSQ
                                                                         QTSTPSLTSSWYFATESSH-----FYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                   --ASSSREVILTLPTPAASSSS-----
                                                                                                                          VRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWHSDILAP
                                                                                                                                                      PSPSTELSRLS----
                                                                                                                                                                           YKPSTTLDGTNKLCQFSPVQELSEQTP---ETSPDKEEASIPKKLQTARPSDSQSKRLHS
                                                                                                                                                                                                    -- QGTSSGTVNVNG-
                                                                                                                                                                                                                                                       HDESSPSSPSVSEGSAASEPETSSSAASSSSTASA-----PPSMPSTSE---
                                                                                                                                                                                                                                                                               -----VPAVSEGGOKSETPLSPPCADSATSEAAGQRPVHPASVPSVPSVQPSLLEDSP
                                                                                                                                                                                                                                                                                                         NFNFMGQLLEYENVLIKDHVLDYNQASRPHRHMDYYGPSDLCPPKVPKSASSNCVFPGST
                                                                                                                                                                                                                                                                                                                                                         PMAYEFLEKCRRAGKKCLIHCLAGISRSPTLAISYIMRYMKMGSDDAYRYVKERRPSISP
                                                                                                                                                                                                                                                                                                                                                                                                          NIYLGSQIDSLDETMLDALDISVVINLSMTCPKSVCIKEDKNFMRIPVNDSYQEKLSPYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                          LEDTDKFRSVMVLEGGFKQFAQQYPQLCESSEGMTRLPQSLSQPCLSQPTGD-GITLITP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HQLMSCSSGCTKMDEKLDL-----VLYAEEDKPRGNKRRIASCNAPESTAKIMRVLRER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELIQHSA-----KHKVDIDCSQKVVVVYDQ-----SSQDVASL----SSDCFLTVLLGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ISTCGLAALIREAPDTTLVVDCRGFTEYNESHVRHSMNAFFSKLIRRRLFENKLDDNCLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17.9%;
                                                                                                                                                      - FNGPEAIAPSTPILNFTNPCFNSPIIPV----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  104;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 611; DB 5;
Pred. No. 4.2e-38;
14; Mismatches 198
                                                                                                                                                                                                       KRNMTMDLGLPHRPKALGLPSRIGTSV----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A0D9153DE6326B43
 580
                       627
                                                                                                   --STS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  198;
                                                                                                                                                                                                                                                                                                                                                                      --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           657;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  184;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                        ÆL
                                                                             600
                                                                                                                            546
                                                                                                                                                      486
                                                                                                                                                                               486
                                                                                                                                                                                                        447
                                                                                                                                                                                                                                429
                                                                                                                                                                                                                                                         405
                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                    283
                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                   553
                                                                                                      509
                                                                                                                                                                                                                                                                                                                                    322
                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                     223
```

O

```
DR RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC STER RC 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOR DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION DE RECEPTION D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Mai
Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q8ST18
Q8ST18;
Q1-JUN-2002
01-JUN-2002
01-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                U1-JUN-2002 (TrEMBLrel. 21, Creat 01-JUN-2002 (TrEMBLrel. 21, Last 01-JUN-2003 (TrEMBLrel. 24, Last Hypothetical protein F08B1.1b. F0BB1.1.
                                                                                       "Direct Submission.";
Submitted (JUN-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; U23178; PAKE6300.1; -.
HSSP; Q16828; 1MKP.
WormPep; P08B1.1b; CE27919.
GO; GO:0016787; F:pddcolase activity; IEA.
GO; GO:0008138; F:protein tyrosine/serine/threonine phos
GO; GO:0006470; P:protein anino acid dephosphorylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN=Bristol N2;
MEDLINE=99069613; PubMed=9851916;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; AY038927; AAK69770.1; -. GO:0017017; F:MAP kinase phosphatase activity; IEA. GO; GO:0006470; F:protein amino acid dephosphorylation; InterPro; IPR008343; MAPK phosph.
InterPro; IPR001763; Rhodanese-like.
                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN-Bristol N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chissoe S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN-Bristol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Nemato
Rhabditidae; Peloderinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Caenorhabditis elegans.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00450; RHODD; 1.
PROSTITE; PS50206; RHODNESE 3;
SEQUENCE 143 AA; 16077 MW;
                                                                                                                                                                                                                                                                                                                                                                             Waterston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Genome sequence of the nematode C. elegans: a platform for investigating biology. The C. elegans Sequencing Consortium."; Science 282:2012-2018(1998).
                                                               InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (JUN-2001) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "A detailed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sequence of C.
itted (APR-1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               124;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PF00581; Rhodanese; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             بر
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DKYLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LAGADA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LAGGFA 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                            IPR000340; DS_phosphatase.
IPR000387; TYR_phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            transcriptional map of the chromosome 12p12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        elegans
) to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nematoda;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17.8%;
98.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            da; Chromadorea; Rhabditida; Rhabditoidea; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cosmid F08B1.";
EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1.
5213A213AA7E5974 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               No. 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ); DB 4;
4.8e-39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                              phosphata.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tumor
                                                                                                      IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        <u>,,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                  IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60
```

```
RESULT TO SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZE 3 ID SZ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SARRAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches 160
                                                                                                                                                                                                                                                                                                   Hypothetical protein.
Brachydanio rerio (Zebrafish) (I
Eukaryota, Metazoa, Chordata, C.
Actinopterygii, Neopterygii; Te.
Cyprinidae; Danio.
NCBI TaxID=7955;
SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STRAIN-AB; TISSUE-Body;
MEDLINE=2388257; PubMed=12477932;
MEDLINE=2388257; PubMed=12477932;
Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
Strausberg R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.
Klausner R.D., Collins F.S., Wagner L., Schaofer C.F., Bhat N.K.,
Altschul S.F., Zeeberg B., Buetow K.H., Schaofer C.F., Bhat N.K.,
Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q7SZF3;
01-OCT-2003
01-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-OCT-2003 (TrEMBLrel.
01-OCT-2003 (TrEMBLrel.
01-OCT-2003 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS00383; TYR_PHOSPHATASE_1; 1.
PROSITE; PS50056; TYR_PHOSPHATASE_2; 1.
PROSITE; PS50054; TYR_PHOSPHATASE_DUAL;
Hypothetical protein; Hydrolase.
SEQUENCE 606 AA; 64962 MW; 5B71795C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q7SZF3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SMART; SM00195; DSPc; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                160;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity 28.9
50; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RMKGFFKVFSKKA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEK-
|:|||||||||||:|||:||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LIQQNGIGYVLNASYTCPKPDFIPE-SHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TESSH-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TPAASSSS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWHSDILAPQTSTPSLTSSWYFA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SAASEPETSSSAASSSSTASA-----PPSMPSTSE------QGTSSGTVNVNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MLDALDISVVINLSMTCPKSVCIKEDKNFMRIPVNDSYQEKLSPYFPMAYEFLEKCRRAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGFKQFAQQYPQLCESSEGMTRLPQSLSQPCLSQPTGD-GITLITPNIYLGSQIDSLDET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGFAEFSRCFPGLCEGKS--TLVPTCISOPCL--PVANIGPTRILPNLYLGCORDVLNKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EESPFEKQFKRRS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SSSSIVVENPFFASTEVPAGSSSISTPSGSQ---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QFSPVQELSEQTP----ETSPDKEEASIPKKLQTARPSDSQSKRLHSVRTSSSGTAQRSLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----KRNMTMDLGLPHRPKALGLPSRIGTSV-----AELPSPSTELSRLS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LEDSNKLKRSFSLDI-----KSVSYSASMAASLHGFSSSEDALEYYKPSTTLDGTNKLC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COKSETPLSPPCADSATSEAAGORPVHPASVPSVPSVQPSLLEDSPLVQALSGLHLSADR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LIKDHVLDYNQASRPHRHMDYYGPSDLCPPKVPKSASSNCVFPGSTHDESSPSSPSVSEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----KIKNQTGASGPKSKLKLL---HLEKPNEP-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KKCLIHCLAGISRSPTLAISYIMRYMKMGSDDAYRYVKERRPSISPNFNFMGQLLEYENV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -FNGPEAIAPSTPILNFTNPCFNSPIIPV-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRRQKPSDRADSRRSWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       77;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Created)
Last sequence that annoted the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contra
                                                                                                                                                                                                                                                                                                                                                                                     ) (Danio rerio).; Craniata; Vert
Teleostei; Osta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 497.5; DB 5;
Pred. No. 2e-29;
7; Mismatches 159;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5B71795C6ED58058 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sequence up
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       367
                                                                                                                                                                                                                                                                                                                                                                                     Vertebrata; Euteleostomi;
Ostariophysi; Cypriniform
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                     Cypriniformes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ---ASSSREVILTLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STPASASSSAASRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----VPAVSEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEPSFDFSSFES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                157;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                        0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19;
```

```
Ş
                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                               맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                     멍
                                                                                                                                                                                                                                                                                                   밁
Search completed: June 21, 2004, 13:22:35 Job time : 53.2647 secs
                                                                                                        δ
                                                                                                                                                  В
                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 14.3%; Score 487.5; Best Local Similarity 33.5%; Pred. No. 5.3e Matches 114; Conservative 69; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L., Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E., Stapleton M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C., Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J., Bosak S.A., McEwan P.J., McKernan K.J., Malke J.A., Gunaratne P.H., Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Villalon D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A., Villalon D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A., Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A., Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C., Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S., Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E., Tonas G.T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Strausberg R.; Strausberg R.; Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases. EMBL, BC052477; AAH52477.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. STRAIN=AB; TISSUE=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Jones S.J., Marra M.A.; "Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences."; proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hypothetical protein. SEQUENCE 367 AA; 4
                                                                                                                                                                                                                             192
                                                                                                                                                                                                                                                           180 IQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC
                                                                                                                                                                                                                                                                                                     132
                                                                                                                                                                                                                                                                                                                                      129
                                                                             311
                                                                                                            300
                                                                                                                                                      251
                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                 72
                                                                                                                                                                                                                                                                                                                                                                                                              71 HSAKHKVDIDCSQKVVVVYDQSSQDVASLSSDCFLTVLLGKL-EKSFNS-VHLLAGGFABF 128
                                                                                                                                                                                                                           LDRWGISALLNVSSNCPN-HFEGDYQYKCIPVEDNHKEDISSWFIEAIEFIDSVKDSNGR
                                                                                                                                                                                                                                                                                                                                      SECEPGLC-----EGKSTLVPTCISOPCLPVANIGPTETLPNLYLGCORDVLNKEL 179
                                                                                                                                                                                                                                                                                                                                                                          VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRFTISPNFNFLGQLLDYEKKIK 299
                                                                                                                                                                                                                                                                                                   STQYPDYCLKTRTLSVSSSQSSMESSCLSCATPQHDQGGPVEILPFLFLGSALHASKKDM
                                                                                                            NOTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSP
                                                                                                                                                    VLVHCQAGISRSATICLAYIMKKKRVRLEEAPEFVKQRRSIISPNFSFMGQLLQFESQVL 310
                                                                             -ATSCSVEAAS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE=Body;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      40538 MW; F89997A415DAD6AC CRC64;
                                                                                   ----PSASLGPKSSSTPTSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5.3e-29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 13; Length 367;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    124; Indels
                                                                                                                        339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      33;
                                                                                                                                                                                                                                                                                                                 191
                                                                                                                                                                                                                                         250
                                                                                                                                                                                                                                                                           239
```

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -MODEL-frame+_p2n.model -DEV=xlh
-Q=/cgn2 1/USPTO_spool/US10029345/runat 21062004 164146_29052/app_query.fasta_1.1294
-Q=/cgn2 1/USPTO_spool/US10029345/runat 21062004 164146_29052/app_query.fasta_1.1294
-DB=Issued_Patents NA -CpWT=fastap -SUFFIX=rni -MINMATCH=0.1 -LOOPCL=0
-LOOPEXT=0 -UNITS=bits -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi
-LIST=45 -DCCALIGN=200 -THR SCORE=pct -THR MAX=100 -THR MIN=0 -ALIGN=15
-MODEL-LOCAL -OUTFMT=pto -NORM=sext -HEAPSIZE=S00 -MINLEN=0 -MAXLEN=200000000
-USER-US10029345 @CGN 1 1 76 @runat 21062004 164146_29052 -NCPU=6 -ICPU=3
-NO MMAP -LARGEQUERY -NEG-SCORES=0 -WAIT -DSPELOCK=100 -LONGLOG
-DEV TIMEOUT=120 -WARN TIMEOUT=30 -THREADS=1 -XGAPDP=10 -XGAPEXT=0.5 -FGAPDP=6
-PGAPEXT=7 -YGAPDP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 command line parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OM protein - nucleic search, using frame_plus_p2n model
                                                                                                                                                                                                                                                                                                                                                                       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                     Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       seq length: 0
seq length: 2000000000
                                          480
469
453
453
453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Xgapop 10.0,
Ygapop 10.0,
Fgapop 6.0,
Delop 6.0,
                                                                                                                                                                                                                                                                     Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             June 21, 2004, 21:10:41 ; Search time 132.037 Seconds (without alignments) 2794.987 Milion cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Issued_Patents_NA:*
1: /cgn2_6/ptodata/2/ina/5A_COMB.seq:*
2: /cgn2_6/ptodata/2/ina/5B_COMB.seq:*
3: /cgn2_6/ptodata/2/ina/6A_COMB.seq:*
4: /cgn2_6/ptodata/2/ina/6B_COMB.seq:*
5: /cgn2_6/ptodata/2/ina/FCTUS_COMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-029-345A-109
3418
                                                                                                                                                                                                                                                                                                                                                                                                                                                         654321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MAHEMIGTQIVTERLVALLE.....LGKVGSQSSFSGSMEIIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                682709 seqs, 277475446 residues
                                                                                                                                                                    38.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         /cgn2_6/ptodata/2/ina/backfiles1.seq:*
                                                                                                                                                                                                                                                                     Length
                       1998
3544
2377
2109
2109
2109
11830
1238
1238
1238
1238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Match 100%
first 45 summaries
                                                                                                                                                                                                                                                                       멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Xgapext
Ygapext
Fgapext
Delext
                 US-09-816-494-3

US-09-816-494-1

US-09-20-668-3

US-09-016-434-1135

US-09-023-655-946

US-09-57-921-1

US-09-702-705-803

US-09-736-457-803

US-09-614-1248-803

US-09-614-1248-803

US-09-614-1248-803

US-09-614-1248-803
                                                                                                                                                                                                                                                                                                                                     SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             7700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . . . . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1365418
Sequence 3, Appli
Sequence 1, Appli
Sequence 3, Appli
Sequence 1135, Ap
Sequence 946, App
Sequence 803, App
Sequence 803, App
Sequence 803, App
Sequence 803, App
Sequence 803, App
Sequence 803, App
Sequence 803, App
Sequence 803, App
Sequence 803, App
Sequence 803, App
                                                                                                                                                                                                                                                                       Description
```

4 4 5 D	4 ω	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13
295.5	95.	95.	95.	95.	æ	82.	82.	82.	382.5	82.	82.	82.	82.	82.	82.	05.	N		28.	4	4	50.	50.	50.	50.	50.	50.	50.	450.5	50.	50.
о 6 6				•			•	•		•	•		•			•	•	•	•	•	•	•		•	•	•	•	•	•	•	•
539	539	w	w	w	7	ω	w	w	w	w	\mathbf{P}	1619	μ	$\mathbf{\mu}$	\vdash	œ	4	0	0	ω	v	2109	0	0	0	0	90	90	2064	2064	90
44	4.	4.	4.	4	4	4	4	4	4	4	4	4	4	4	4	N	4	4	4	N	N	4.	4.	4	4	4.	4.	4.	4.	4	4
-09-834-759	09-433-826B-3	-09-339-338-31	-09-620-405B-3	-09-389-681-31	-09-016-434-9	-09-589-18	-09-671-325-	-09-614-12	-09-736-457-8	-09-702-705-	-09-589-184-	-09-671-325-8	-09-614-124E	-09-736-457-80	-09-702-705-80	-990-37	-09-371-671B	-09-922-146	-09-016-434-	-08-530-290-	-08-990-379-	-09-589-184-82	-09-671-325-82	-09-614-124B-8	-09-736-457-82	-09-702-705-82	-09-589-184-82	-09-671-325-82	-09-614-124B-	-09-736-457-82	9-702-705-82
Sequence 311, App	ω	31	31:	31	91	80	80	80	80	80,	80	80	80:	80	80:	1,	10	w	12	11	Ŋ	82	82	82	equence 82	e 82	equence 82!	e 82	equence 82!		equence 82!

ALIGNMENTS

0 0 0 0 0 0

```
밁
                                 8
                                                                                                                                                 Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                         Score:
                                                                                                                                                                                                        Pred. No.:
                                                                                                                                                                                                                          Alignment Scores:
                                                                                                                                                                                                                                                                  US-09-816-494-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-816-494-3
                                                                      US-10-029-345A-109 (1-665) x US-09-816-494-3 (1-1998)
                                                                                                                                Query Match:
                                                                                                                                                                                                                                                                               NUMBER OF SEQ ID NOS: 10

SOPTWARE: FASTSEQ for Windows Version 4.0

SEQ ID NO 3

LENGTH: 1998

TYPE: DNA

ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: Meyers | Rachel A.
APPLICANT: Meyers | Rachel A.
TITLE OF INVENTION: 38692 AND 21117, NOVEL DUAL SPECIFICITY
TITLE OF INVENTION: PHOSPHATASE MOLECULES AND USES THEREFOR
FILE REFERENCE: 10448-030002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 3, Application US/09816494 Patent No. 6664089
                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/09/816,494 CURRENT FILING DATE: 2001-03-23
PRIOR APPLICATION NUMBER: US 60/191,858
PRIOR FILING DATE: 2000-03-24
                   MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                            3406.00
99.85%
99.70%
99.65%
                                                                                                                                                                                     Length:
Matches:
                                                                                                              Gaps:
                                                                                                                                 Mismatches:
Indels:
                                                                                                                                                                     Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Protes IDZ
                                                                                                                                                                                                                                                                                                                                                                                                               NTS SIDS
                                                                                                                  004
```

δ

21 SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer 40

; NUMBER OF SEQ ID NO: ; SOFTWARE: FastSEQ fo	381 SerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPhe 400	Ş
CURRENT APPLICATION CUBRENT FILING DATE PRIOR APPLICATION NO PRIOR FILING DATE:	361 ProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeu 380 	A 4
APPLICANT: MEYORTS, I APPLICANT: MEYORTS, I TITLE OF INVENTION: ; TITLE OF INVENTION: ; TITLE OF INCERCE. 10.4	341 CysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal 360 	유 성
US-09-816-494-1 US-09-816-494-1 ; Sequence 1, Applicat: ; Patent No. 6664089 ; Patent No. 6664089	321 GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro 340 	유 왕
Db 1981 ATCATTGA	301 GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn 320 	유 성
1921 661	281 IleSerProAsnPheAsnPheLeuGlyGln 841 ATATCTCCAAACTTCAATTTTCTGGGCCAA	B 8
1861 A.A	261 Lysa 781 AAGA	ß &
Oy 601 GINLYSER: Db 1801 CAGAAGCCI COY 621 LVSG1nPh	241 LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaTleAlaTyrIleMet 260	B 8
1741	221 ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal 240	유 성
1681 ACAGAGT	201 IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu 220 	B 8
1621 TCGGATA	181 GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe 200	B 8
1561 CTTTC	161 ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180 	8 8
1501	141 ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr 160	A 4
	121 LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer 140 	당성
1381	101 AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu 120 	유 성
Db 1321 AAGCTATG OV 461 ASDLVSG1	81 CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100 	유 성
1261	61 AspLysValleuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp 80 	유 성
401 1201	41 HislleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln 60	유 성
1141	61 AGTGGAACGGAAAAAGTGCTACTTGATTGACCGGCCATTTGTGGAATACAATACATCC 120	타

```
31uValSer 665
||||||||
3AGGTCTCC 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                heLysArgArgSerCysGlnMetGluPheGlyGluSerIleMetSerGluAsn
                                                                                                                                                                                                                                                             roSerAspArgAlaAspSerArgArgSerTrpHisGluGluSerProPheGlu
                                                                                                                                                                                                                                                                                                                                         erCysSerGlnLeuProThrCysGlyAspGlnValTyrSerValArgArgArg
                                                                                                                                                                                                                                                                                                                                                                                              CCTCACACTTCTACTCTGCCTCAGCCATCTACGGAGGCAGTGCCAGTTACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                         erSerHisPheTyrSerAlaSerAlaIleTyrGlyGlySerAlaSerTyrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCAGCCAGCAGCACCTCACGAAGTCTGCTGGCCTGGGCCTTAAGGGCTGGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          euHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    rgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   splleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPhe 420
                                                                               CAAGTGACAGAGCTGACTCGCGGCGGAGCTGGCATGAAGAGAGCCCCCTTTGAA
                                                                                                                                                                                                                                                                                                                     SCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCTTGGCCCCCAGACCTCTACCCCTTCCCTGACCAGCAGCTGGTATTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GATTGCATTCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    luGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCAGTTCTCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerPro 460
                                                                                                                                                           TTAAACGCAGAAGCTGCCAAATGGAATTTGGAGAGAGCATCATGTCAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 leLeuAlaProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rgcatcgaagtgggagcgacaattaccaccagcttccttttcggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTC 1200
                                                                                 1980
                                                                                                                                                                                                                                                                                                                                                                                                  1740
                                                                                                                        660
                                                                                                                                                             1920
                                                                                                                                                                                                640
                                                                                                                                                                                                                                         1860
                                                                                                                                                                                                                                                                                                                     1800
                                                                                                                                                                                                                                                                                                                                                           600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           440
                                                                                                                                                                                                                                                                              620
                                                                                                                                                                                                                                                                                                                                                                                                                                     580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1260
```

RESULT 2
US-09-816-494-1
US-09-816-494-1
US-09-816-494-1
Sequence 1, Application US/09816494
Patent No. 6664089
GENERAL INFORMATION:
APPLICANT: Meyers, Rachel A.
FITLE OF INVENTION: 38692 AND 21117, NOVEL DUAL SPECIFICITY
FILL REFERENCE: 10448-030002
CURRENT APPLICATION NUMBER: US/09/816,494
CURRENT FILING DATE: 2001-03-23
PRIOR APPLICATION NUMBER: US 60/191,858
PRIOR APPLICATION NUMBER: US 60/191,858
PRIOR FILING DATE: 2000-03-24
NUMBER OF SEQ 1D NOS: 10
SOFTWARE: FastSEQ for Windows Version 4.0

Qy 261 LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr 280	Qy 241 LeuValHisCYsLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet 260	Qy 221 ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal 240	Qy 201 IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu 220	Qy 181 GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe 200	Oy 161 ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180	Qy 141 ThrLeuvalProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr 160	Qy 121 LeuAlaGlyGlyPheAlaGluPheSerArgCysPheDroGlyLeuCysGluGlyLysSer 140	Qy 101 AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu 120	Qy 81 CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100	Qy 61 AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp 80	Qy 41 HisileLeuGluAlaileAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln 60	Qy 21 SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer 40	1 MetAlaHisGluMetIleGlyThrGlnIleValThr 589 ATGGCCCATGAGATTGGAACTCAAATTGTTACT	99.65% Indels: 4 Gaps: 665) x US-09-816-494-1 (1-3544)	Alignment Scores: Pred. No.: Score: Percent Similarity: 99.85% Conservative: Best Local Similarity: 99.70% Mismatches: 1	ON: (
	23B9 CAGAAGCCAAGTGACCAGCTGACCTGGCGCGGAGCTGGCATGAAGAGAGCCCCTTTGAA 23B9 CAGAAGCCAAGTGACAGAGCTGACCAGCGGGGGGGAGCTGGCATGAAGAGAGCCCCTTTGAA	2329 GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG 2329 GCCTACAGCTGCAGCCAGCTGCCCACTTGCGGAGACCAAGTCTATTCTGTGCGCAGGCGG	2269 ACAGAGTCCTCACACTTCTACTCTACCACTCTACGGAGGCAGTGCCAGTTACTCT 2	Threship Contain Con	Selection Sele	201 SELFICUEUMIENIŲSECISIYSEI VALSUKANDABINĮVALISINISELFICUEUMIENIŲSELFICUEUMIENIŲSELFICUEUMIENIŲSELFICUEUMIENIŲSELFICUEUMIENIŲSELFICUEUMIENIŲSELFICUEUMIENI	Tol Corporations: Are Corporated and Corporation and Corporati	1969 GATAAGGAAGCCAGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAG		121 Getsetsetsliche Antabecetufftffffffffffffffffffffffffffffffff	1789 TCTCTGGATATCAAATCAGTTTCATATTCAGCCAGGCATGGCAGCATCCTTACATGGCTTC	171 GETTI BUTCHA MANAGEMENT AND AND AND AND AND AND AND AND AND AND	361 1669	Qy 341 CysalaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerVal 360	Qy 321 GluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProPro 340	Qy 301 GlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsn 320	Db 1429 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC 1488

```
; Sequence 3, Application US/09920668
; Patent No. 6492644
; GENERAL INFORMATION:
; APPLICANT: Lex M. Cowsert
; APPLICANT: Brett P. Monia
; TITLE OF INVENTION: ANTISENSE MODULATION OF DUJ
; FILE REFERENCE: RTS-0246
; CURRENT APPLICATION NUMBER: US/09/920,668
; CURRENT FILLING DATE: 2001-08-01
      S
                                  밁
                                                            8
                                                                                       뮍
                                                                                                                  δ
                                                                                                                                              밁
                                                                                                                                                                     S
                                                                                                                                                                                                 밁
                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                뮍
                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-029-345A-109 (1-665) x US-09-920-668-3 (1-2377)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 3
US-09-920-668-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQ ID NOS: 49
SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY: CDS
LOCATION: (13)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA
ORGANISM: Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 . No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 2377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2569
       159
                                                                                          495
                                                                                                                                                 435
                                                                                                                                                                                                         375
                                                                                                                     120
                                                                                                                                                                           100
                                                                                                                                                                                                                                                                315
                                                                                                                                                                                                                                                                                                                        255
                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                               195
                                                                                                                                                                                                                                                                                                                                                                                                                                        135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 641
                                                                                                                                                                                                                                    80
                                                                                                                                                                                                                                                                                                                                                    40
                                                                                                                                                                                                                                                                                                                                                                                                            20
                                                                                                                                             GCAGACAGCTTCCTCCATCCTGCTGAGCAAGCTGGACGGCTGCTTCGACAGCGTGGCC
                                                                                                                                                                   SerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHis
{\tt ProThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGlu}
                                                    ---SerThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGly
                                                                                                          LeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLys
                               ATCCTCACTGGGGGGCTTCGCCACCTTCTCCCTGCTTCCCCGGCCTCTGCGAGGGCAAG
                                                                                                                                                                                                                                                                                                                                                                           GluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThr 39
                                                                                                                                                                                                                     AspCysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSer 99
                                                                                                                                                                                                                                                                           GlnAspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGGCTGGGGACCGGCTCCCGAGGAAGGTGATGGATGCCAAGAAGCTGGCCAGCCTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                             MetAlaHisGluMetIleGlyThrGlnIleVal---ThrGluArgLeuValAlaLeuLeu 19
                                                                                                                                                                                                      ACGGAGCCACAGGACGTGGTGGTCTATGACCAGAGCACGCGGGACGCCAGCGTGCTGGCC
                                                                                                                                                                                                                                                             CAGGGCAAGGTGACCATTGCGGAGCTCATCCAGCCGGCTGCACGCAGCCAGGTGGAGGCT 374
                                                                                                                                                                                                                                                                                                                      TGGCATGTGCTCAGCTCCGTCAACATCTGCTGCTCCAAGCTGGTGAAGCGGCGGCTGCAG
                                                                                                                                                                                                                                                                                                                                  SerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGln 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IleIleGluValSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ArgSerArgGluGluLeuGlyLysValGlySerGlnSerSerPheSerGlySerMetGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (135)...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGGTCACGGGAAGACTGGGGAAAGTGGGCAGTCAGTCTAGCTTTTCGGGCAGCATGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (2012)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1.34e-128
1326.00
58.54%
45.05%
38.79%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DUAL SPECIFIC PHOSPHATASE 8 EXPRESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2377
314
94
185
104
21
                                                         158
                                                                                                                  139
                                                                                                                                                                        119
                               614
                                                                                       554
                                                                                                                                              494
                                                                                                                                                                                                    434
                                                                                                                                                                                                                                                                                          79
                                                                                                                                                                                                                                                                                                                     314
                                                                                                                                                                                                                                                                                                                                                                            254
                                                                                                                                                                                                                                                                                                                                                                                                                                     194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              660
               S
                                                               S
                                                                                                 밁
                                           밁
                                                                                                                        Ş
                                                                                                                                                 Дb
                                                                                                                                                                                 δ
                                                                                                                                                                                                                  닭
                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                 Вb
                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                   1467
                                                                                                                                                                                                                  1350
                                                                                                                                                                                                                                                                           1338
                                                                                                                                                                                                                                                                                                                                  1296
                                                                                                                                                       1410 GACAGCCCGTCGGGGCCTGGGCCTGTCCTCGCCCAGCCCGGAC---AGCCCCGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                1185
                502
                                                                                                                                                                                                                                                                                                                                                                                          1236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1035
                                                                                                                                                                                                                                              434
                                                                                                                                                                                                                                                                                                                                                            394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  179
ProLeuHisArgSerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGly----
                                                                                                                                                                                                                  AGGCGGCCCGACGGCCCCGGGCCCCCGACCCCGGCGAGGCCCCGAAGCTCTGCAAGCTG 1409
                                                                                                                                                                                                                                                                                                                                                    AsnLysLeuLysArgSerPheSerLeuAspIleLysSerValSerTyrSerAlaSerMet 413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGCTGCCCTGGCTGGACAAGTCCATCGAGTTCATCGATAAAGCCAAGCTCTCCAGCTGC
                                                                     LysArgLeuHisSerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeuSer 501
                                                                                                                           LysGluGluAlaSerIleProLysLysLeuGlnThrAlaArgProSerAspSerGlnSer 481
                                                                                                                                                                                    ---SerPro-----ValGlnGluLeuSerGluGlnThrProGluThrSerProAsp
                                                                                                                                                                                                                                           SerProLeuValGlnAlaLeuSerGlyLeuHisLeuSerAlaAspArgLeuGluAspSer 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                GGCCTGAGCGCGGGGGGGAGCCCCCCGCGCCCCCCACGCCCCCGGGCG-----ACC 1235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ProLeuSerProProCysAlaAspSerAlaThr----SerGluAlaAlaGlyGlnArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAAGTCATCGTCCACTGTCTGGCTGGCATCTCCCCGCTCTGCCACCATCGCCATCGCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CysValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AspPheIleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLys
                                                                                                 GCCGCGCCTGAGGCGCGCCCACGGCCCCGCCGGCCGCCCGGCCC
                                                                                                                                                                                                                                                                                                 AlaAlaSerLeuHisGlyPheSerSerSerGluAspAlaLeuGluTyrTyrLysProSer 433
                                                                                                                                                                                                                                                                                                                                 AACCGCCTCAAGCGCTCCTTCTCCCCTGGACATCAAGTCTGCC-------
                                                                                                                                                                                                                                                                                                                                                                                        AGCGCACTGCAGGGCCTGCGCGGCCTGCACCTCTCCTCGGACCGCCTGCAGGACACT 1295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ProValHisProAlaSerValProSerValProSerValGlnProSerLeuLeuGluAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ProAsn--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAGCTGCTGGCCGCCCTGCAGGGCGACCCGGGC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LysAsnGlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLys 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGTCCATCTCGCCCAACTTCAACTTCCTGGGCCAGCTGCTGGAGTACGAGCGCACGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCATGAAGACCATGGGCATGTCCTCCGACGACGCCTACAGGTTCGTGAAGGACAGGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IleMetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LeuIleGinGinAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGACCCGCATCCTGCCTCACCTCTACCTGGGCTCGCAGAAGGACGTCCTAAACAAGGAT 674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGATGACGCAAAATGGAATAAGCTACGTCCTCAACGCCAGCAACTCCTGCCCCAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -GluProValProAlaValSerGluGlyGlyGlnLysSerGluThr 335
                                           -CCCGCCGGCTCCCCCGCGCGC-----TCC
                                                                                                                                                                                                                                                                         TACGCCCCTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ----ACC
                                          1535
                                                                                                 1511
                                                                                                                                                       1466
                                                                                                                                                                                    461
                                                                                                                                                                                                                                                                         1349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1034
                                                                                                                                                                                                                                                                                                                                 1337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     734
```

```
र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ર્શ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-016-434-1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1135, Application US/09016434 Patent No. 6500938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: Janice Au-Young
APPLICANT: Jeffrey J. Seilhamer
APPLICANT: Jeffrey J. Seilhamer
TITLE OF INVENTION: COMPOSITION FOR THE DETECTION
TITLE OF INVENTION: PATHWAY GENE EXPRESSION
 TELEFAX: (650) 845-4166
INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                               ATTORNEY/AGENT INFORMATION:
NAME: Zeller, Karen J.
REGISTRATION NUMBER: 37,071
REFERENCE/DOCKET NUMBER: PA-0002
TELECOMMUNICATION INFORMATION:
TELEPHONE: (650) 855-0555
                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM FC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOPTWARE: Word Perfect 6.1 for Windows/MS-DOS
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES: 1
                                                                                                                                                                                             PRIOR APPLICATION DATA:
                                                                                                                                               FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                              FILING DATE: H
CLASSIFICATION:
                                                                                                                                                                              APPLICATION NUMBER:
                                                                                                                                                                                                                                              APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                            STREET:
                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1902 ATGGAGTTCGAGGAGGGC---ATGGTGGAGGGGCGCGCGCGCGCGAGGAGCTGGCCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1536 CCCGCGCACAGCCTCGGC------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PALO ALTO
CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCAGGCGGCGGCACCTGCGGCGGCGGCGGAGGCAGCGAGGGCTGAGCCCCGGGACGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MetGluPheGlyGluSerIleMetSerGluAsnArgSerArg---GluGluLeuGlyLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGGACCGGCTGGCCCGAGGAGCCCGGGAGACGCAGTTCAAGCGCCGCAGCTGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ArgArgSerTrpHisGluGluSerProPheGluLysGlnPheLysArgArgSerCysGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CysGlyAspGlnValTyrSerValArgArgArgGlnLysProSerAspArgAlaAspSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SerAlaIleTyrGlyGlySerAlaSerTyrSerAlaTyrSerCysSerGlnLeuProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACGCCGTCGCCCGACGGGCCCTGGTGCTTCAGCCCCGAG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ThrProSerLeuThrSerSerTrpTyrPheAlaThrGluSerSerHisPheTyrSerAla 569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCTGGCCAGCCGGCCCCGGGGCCTGGGCACCGCCGCTTGACTCCCCA-----GGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCGGCCCGGCAGACTCCGCGGCACGGCCTCTCGGCCCTGTCGGCGCCCGGGCTGCCCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ----LeuSerThrSerGlnGlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGly
                                                                                                                                                                                                                                                                                                                                                                                                                          3174 PORTER DRIVE
                                                                                                                                                                                                                                                                                                                                                                              USA
                                                                                                                                                                                                                                                                                                                                                                                                                                             INCYTE PHARMACEUTICALS,
                                                                                                                                                                                                                               HEREWITH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1490
                                                                                                                                                                                                                                               US/09/016,434
                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TrpHisSerAspIleLeuAlaProGlnThrSer 549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----CTGAACTTCGGCGAT 1568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OF SIGNALING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1628
                  δ
                                                  밁
                                                                               Ś
                                                                                                                 밁
                                                                                                                                            S
                                                                                                                                                                               밁
                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-029-345A-109 (1-665) x US-09-016-434-1135 (1-2109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-016-434-1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IMMEDIATE SOURCE:
LIBRARY: GENBAN
CLONE: g1418933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRANDEDNESS:
TOPOLOGY: lir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          490
                                                                                                                                                                                                                                               964
                                                                                                                                                                                                                                                                              159
                                                                                                                                                                                                                                                                                                              904
                                                                                                                                                                                                                                                                                                                                              158
                                                                                                                                                                                                                                                                                                                                                                              844
                                                                                                                                                                                                                                                                                                                                                                                                              155
                                                                                                                                                                                                                                                                                                                                                                                                                                              790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     59 GlnGlnAspLysValLeuIleThrGluLeuIleGlnHisSerAla---LysHisLysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       39 ThrserHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nucleic acid
SerAsnGlyCysValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAla
                                                  AGCCAAAACCIGICCCAGITITICCCIGAGGCCATITCITICATAGAIGAAGCCCGGGGC 1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAGAATACGGGCGGGGAGTCGTTGCTCGGGGCTGCTGCTCAAGAAGCTCAAGGACGAGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AlaSerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCGTCGCACATCGAGTCGGCCATCAACGTGGCCATCCCGGGCATCATGCTGCGGCGCCTG
                                                                                                                                                                                                                                                                                                                                                                              CTGGGGCTCGGGGGCCTGCGGATCAGCTCTGACTCTTCCTCGGACATCGAGTCTGACCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AspīleAspCys---SerGlnLysValValValTyrAspGlnSerSerGlnAsp----Val
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsn
                                                                                                               AATCTCTTTGAGAACGCAGGAGAGTTTAAATACAAGCAAATCCCCATCTCGGATCACTGG 1143
                                                                                                                                                                                                              LysGluLeuIleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysPro
                                                                                                                                                                                                                                                                                                              AlaAsnIleGly-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGCCGGGCGTTCTACCTGGAAGGTGGCTTCAGTAAGTTCCAAGCCGAGTTCTCCCTGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCCGGCGCTGTGGCACCGACACAGTGGTGCTCTACGACGAGAGCAGCAGCGACTGGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGAAGGGTAACCTGCCGGTGCGCGCGCGCTCTTCACGCGCGAGGACCGGGACCGCTTC
                                                                                  CysGluLysIleLeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAla
                                                                                                                                               LysPro---AspPheIleProGluSerHisPheLeuArgValProValAsnAspSerPhe
                                                                                                                                                                               TTGGACGTGTTGGAGGAATTCGGCATCAAGTACATCTTGAACGTCACCCCCAATTTGCCG
                                                                                                                                                                                                                                               TCCTTCCCAGTGGAGATCTTGCCCTTCCTCTACTTGGGCTGTGCCAAAGACTCCACCAAC
                                                                                                                                                                                                                                                                     -----ProThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CysGluGlyLysSerThrLeuValProThrCys---IleSerGlnProCysLeuProVal
                                                                                                                                                                                                                                                                                                                                                                                                                                              TGCGAG----ACCAATCTAGACGGCTCGTGTAGCAGCAGCTCGCCGCCGTTGCCAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENBANK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8.46e-40
480.00
51.62%
32.70%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2109
121
70
126
53
                                                                                                                                                   215
                                                                                                                                                                                                                 196
                                                                                                                                                                                   1083
                                                                                                                                                                                                                                                 1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            77
                                                                                                                                                                                                                                                                                176
                                                                                                                                                                                                                                                                                                                963
                                                                                                                                                                                                                                                                                                                                                158
                                                                                                                                                                                                                                                                                                                                                                                903
                                                                                                                                                                                                                                                                                                                                                                                                              158
                                                                                                                                                                                                                                                                                                                                                                                                                                                843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           38
```

```
Pred.
                               Alignment Scores:
                                                             ; CLONE: 91418933
US-09-023-655-946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 5
US-09-023-655-946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Patent No. 6607879
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 946, Application US/09023655 Patent No. 6607879
                                                                                                                                                                                       TELEFAX: (650) 845-416
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: Zeller, Karen J.
REGISTRATION NUMBER: 37,071
REFERENCE/DOCKET NUMBER: PA-0
TELECOMMUNICATION INFORMATION:
TELEPHONE: (650) 855-0555
                   No.:
                                                                                             IMMEDIATE SOURCE:
LIBRARY: GENBA
                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Word Perfect 6.1 for Windows/MS-DOS
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Cocks, Benjamin G.
APPLICANT: Susan G. Stuart
APPLICANT: Jeffrey J. Seilhamer
TITLE OF INVENTION: COMPOSITION
TITLE OF INVENTION: EXPRESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE: C
                                                                                                                                                STRANDEDNESS:
                                                                                                                                                                  TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: FILING DATE: HEREW CLASSIFICATION:
                                                                                                                                    TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                      FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1432 CAGCTGTATTTTACCACCCCTTCCAACCAGAATGTATACCAGGTGGACTCTCTGCAATCT 1491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            276 GluLysArgProThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            94304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PALO ALTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeuLeuHisLeuGluLysProAsnGluProValProAlaValSerGluGlyGlyLlnLys 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGGACGCTG-----GGACTCAGCAGCCCATGTGACAACAGGGTTCCAGCACAG 1431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGAAAAAATCCAACATATCCCCTAACTTCAACTTCATGGGTCAGCTGCTGGACTTCGAG 1383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACGTGAAAGACCCCACACCCCTCCTTGC 1519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ser-GluThrProLeuSerProProCys 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LysLysIleLysAsnGlnThrGlyAlaSerGlyPro-----LysSerLysLeuLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGGCTTACCTTATGCAGAAGCTCAATCTGTCGATGACGATGCCTATGACATTGTCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IleAlaTYrIleMetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAGAACTGTGGTGCTTGGTACATTGCTTGGCTGGCATTAGCCGCTCAGTCACTGTGACT 1263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3174 PORTER DRIVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          USA
                                                                                                                                linear
                                                                                                                                                                                                                                                                                                                                                                                                                                         HEREWITH
                                                                                                                                               single
                                                                                                                                                                                                                                  845-4166
               8.46e-40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1508
                                                                                                                                                                                                                                                                                                                                                                                                                                                     US/09/023,655
                                                                                                                                                                                                                  946:
                                                                                                                                                                                                                                                                                   PA-0001 US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FOR
            Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         THE DETECTION OF BLOOD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INC
            2109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             275
        Ş
                                        밁
                                                                      8
                                                                                                        밁
                                                                                                                                      Ş
                                                                                                                                                                           밁
                                                                                                                                                                                                                                         뮍
                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      멁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-029-345A-109 (1-665) x US-09-023-655-946 (1-2109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score:
                                                                                                         1264
                                                                                                                                                                                                                                          1144
                                                                                                                                                                                                                                                                                                            1084
   296 LysLysIleLysAsnGlnThrGlyAlaSerGlyPro----
                                                                                                                                                                                                         236
                                                                                                                                                                                                                                                                                                                                             197
                                                                                                                                                                                                                                                                                                                                                                                                               177
                                                                                                                                                                                                                                                                                                                                                                                                                                              964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        136 CYsCluGlyLysSerThrLeuValProThrCys---IleSerGlnProCysLeuProVal 154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                158 -----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 155 AlaAsnIleGly-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               490 TCGTCGCACATCGAGTCGGCCATCAACGTGGCCATCCCGGGCATCATGCTGCGGCGCCTG 549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             59 GlnGlnAspLysValLeuIleThrGluLeuIleGlnHisSerAla---LysHisLysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     39 ThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu 58
                                                                                                  GTGGCTTACCTTATGCAGAAGCTCAATCTGTCGATGAACGATGCCTATGACATTGTCAAA
                                                        GluLysArgProThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGlu 295
                                   ATGAAAAATCCAACATATCCCCTAACTTCAACTTCATGGGTCAGCTGCTGGACTTCGAG
                                                                                                                               IleAlaTyrIleMetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLys
                                                                                                                                                                    AAGAACTGTGGTGTCTTGGTACATTGCTTGGCTGGCATTAGCCGCTCAGTCACTGTGACT
                                                                                                                                                                                       SerAsnGlyCysValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAla
                                                                                                                                                                                                                                                              CysGluLysIleLeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAla 235
                                                                                                                                                                                                                                                                                                                                                                                                LysGluLeuIleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysPro 196
                                                                                                                                                                                                                                                                                                                                                                                                                                         TCCTTCCCAGTGGAGATCTTGCCCCTTCCTACTTGGGCTGTGCCCAAGACTCCACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTGGGGCTCGGGGGCCTGCGGATCAGCTCTGACTCTTCCTCGGACATCGAGTCTGACCTT 903
                                                                                                                                                                                                                                     AATCTCTTTGAGAACGCAGGAGAGTTTAAATACAAGCAAATCCCCATCTCGGATCACTGG
                                                                                                                                                                                                                                                                                                                                    LysPro---AspPheIleProGluSerHisPheLeuArgValProValAsnAspSerPhe
                                                                                                                                                                                                                                                                                                                                                                      TTGGACGTGTTGGAGGAATTCGGCATCAAGTACATCTTGAACGTCACCCCCAATTTGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                              -----ProThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsn 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGAATACGGGCGGCGAGTCGTTGCTCGGGCTGCTCAAGAAGCTCAAGGACGACGAGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AlaSerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCCGGCGCTGTGGCACCGACACAGTGGTGCTCTACGACGAGAGCAGCAGCGACTGGAAC 669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGCCGGGCGTTCTACCTGGAAGGTGGCTTCAGTAAGTTCCAAGCCGAGTTCTCCCTGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AspIleAspCys---SerGlnLysValValValTyrAspGlnSerSerGlnAsp----Val
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGCGAG-----ACCAATCTAGACGGCTCGTGTAGCAGCAGCTCGCCGCCGTTGCCAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGAAGGGTAACCTGCCGGTGCGCGCGCGCGTCTTCACGCGCGAGGACCGGGACCGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480.00
51.62%
32.70%
14.04%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
70
126
53
-LysSerLysLeuLys
```

275

1263

1203

255

1143

1083

1023

158

843

158

135

729

609

77

95

```
RESULT 6
US-09-557-921-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                     밁
                                                                                                                                                                                                           ঠ
                                                                                                                                                                                                                                           당
                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                ş
                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                            밁
                                                                र्
                                                                                                        문
                                                                                                                                   ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-029-345A-109 (1-665) x US-09-557-921-1 (1-1830)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-557-921-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 1
LENGTH: 1830
TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1, Application US/09557921
Patent No. 6551810
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/557,921
CURRENT FILING DATE: 2000-04-20
NUMBER OF SEQ ID NOS: 20
SOFTWARE: FASTSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
TITLE OF INVENTION: DSP-1
FILE REFERENCE: 200125.41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1432 CAGCTGTATTTTACCACCCCTTCCAACCAGAATGTATACCAGGTGGACTCTCTGCAATCT 1491
                                    1020 ---CCCACCACCCCTGACATCGAGAACGCTGAGCTCACCCCCATCTTGCCCCTTCCTGTTC 1076
                                                                                                                                                                                  903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    603 GTCATCATTGACTGCAGGCCCTTCATGGAGTACAACAAGAGTCACATCCAAGGAGCTGTC
168 LeuGlyCysGlnArgAspValLeuAsnLysGluLeuIleGlnGlnAsnGlyIleGlyTyr 187
                                                                                                                                                                                                                                                                                                                                                                                                      723 CTAGACTTGATTTCCTGTAGGGAAGGCAAGGACTCTTTCAAGAGGATCTTTTCCAAAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                        66 ThrGluLeuIleGln---HisSerAlaLysHisLysValAspIleAspCysSerGlnLys
                                                                GlnProCysLeuPro---ValAlaAsnIleGlyProThrArgIleLeuProAsnLeuTyr 167
                                                                                                                                                                                  PheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLys-------
                                                                                                                                                                                                                                                       CACATAGTCCTCGAGTCCCTGAAGAGAGAGAGGCAAAGAACCTCTGGTGTTGAAAGGTGGA
                                                                                                                                                                                                                                                                                         ThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeuLeuAlaGlyGly
                                                                                                                                                                                                                                                                                                                                                      ValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSerAspCysPheLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACATTAACTGTGCCGATAAGATCAGCCGGCGGAGACTGCAGCAGGGCAAGATCACTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AsnIleAsnCysSer---LysLeuMetLysArgArgLeuGlnGlnAspLysValLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuLeuIleAspSerArgProPheValGluTyrAsnThrSerHisIleLeuGluAlaIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACGTGAAAGACCCCACACCCCTCCTTGC 1519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LeuLeuHisLeuGluLysProAsnGluProValProAlaValSerGluGlyGlyGlnLys 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGGACGCTG------GGACTCAGCAGCCCATGTGACAACAGGGTTCCAGCACAG
                                                                                                            TGCCGGGAGGTGGGGGGCGCATCCGCGGCCTCGAGCTTGCTACCTCAGCCCATC---
                                                                                                                                                                                                                                                                                                                             ATTATAGTTTATGATGAGAATACCAATGAACCAAGCCGAGTGATGCCCTCCCAGCCACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ser-GluThrProLeuSerProProCys 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               200125.416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9.28e-39
469.00
57.72%
35.91%
13.72%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DSP-10 DUAL-SPECIFICITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative:
                                                                                                                                            ----SerThrLeuValProThrCysIleSer 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1431
                                                                                                                                                                                  962
                                                                                                                                                                                                                                                                                           124
                                                                                                                                                                                                                                                                                                                               842
                                                                                                                                                                                                                                                                                                                                                                   104
                                                                                                                                                                                                                                                                                                                                                                                                      782
                                                                                                                                                                                                                                                                                                                                                                                                                                        84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        46
                                                                                                              1019
                                                                                                                                                                                                                       139
```

```
밁
                                                                   Ś
                                                                                                        밁
                                                                                                                                                                                                                             Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
δ
                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                             US-10-029-345A-109 (1-665) x US-09-702-705-803 (1-1238)
                                                                                                                                                                                                                                                                                                                     Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                            US-09-702-705-803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-702-705-803
                                                                                                                                                                                                                                                                                                        Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Fan, Liqun
TITLE OF INVENTION: COMPOSITIONS AND METHODS
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C14
CURRENT APPLICATION NUMBER: US/09/702,705
CURRENT FILING DATE: 2000-10-30
NUMBER OF SEQ ID NOS: 1833
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 803, Application US/09702705 Patent No. 6504010 .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA
ORGANISM: Homo
                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 1238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1137 GTCATCAACGTCACCACTCATCTTCCCCCTCTACCACTATGAGAAAGGCCTGTTC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1365 ACTCGGATGACCATGACTGATGCTTATAAATTTGTCAAAGGCAAACGACCAATTATCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1245 TTTGAAGAGGCTTTTGAGTTCATTGAGGAAGCTCACCAGTGTGGGAAGGGGGCTTCTCATC 1304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       283 ProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 188 ValLeuAsnAlaSer------
                                     225 GCGGGCTACATCCTAGGTTCGGTCAACGTGCGCTGTAACACCATCGTGCGGCGGCGG---
                                                                                                          168 CTGCCGAGCGGC---GGCAAGTGCCTGCTGCTGGACTGCAGACCGTTCCTGGCGCACAGC
                                                                                                                              19 LeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsn
 59 GlnGlnAspLysValLeuIleThrGluLeuIle-----GlnHisSerAlaLysHisLys
                                                                    39 ThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMetLysArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fanger, Gary
Vedvick, Tom
Carter, Darrick
Retter, Marc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeuProTrp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThrIleSer 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCAAACCTTAACTTCATGGGGCAGTTGCTAGAGTTCGAGGAAGACCTAAACAAC 1478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CACTGCCAGGCTGGGGGTGTCCCGCTCCGCCATCGTCATCGCTTACTTGATGAAGCAC 1364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysValLeuVal 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----AACTACAAGCGGCTGCCAGCCACTGACAGCAACAAGCAGAACCTGCGGCAGTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bangur, Chaitanya
Lodes, Michael A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mannion, Jane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Wang, Tongtong
                                                                                                                                                                                                                                                                                                                                                                             sapien
                                                                                                                                                                                                                  2.14e-37
453.00
50.52%
31.41%
13.25%
                                                                                                                                                                                                                                 Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                     Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -TyrThrCysProLysProAspPheIlePro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FOR THE THERAPY
                                                                                                                                                                                                              1238
120
73
143
46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1244
     76
                                                                        58
                                                                                                            224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   202
```

```
999 ATCATCTCGCCCAACTTCAGCTTCATGGGGCAGCTGCTGCAGTTCGAGTCCCAGGTGCTG 1058
                                                                                                                                                                                                                                                                                                                                                                                                                                                    280 ThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLys 299
                                                                                                                                                                                                                                                                                                      AsnGluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerPro
                                                                                                                                                                        ValProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAla 379
                                                                                                                                                                                                                                          ProCysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSer 359
                                                                                                                                                                                                                                                                                 AsnGlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGATGAAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGCTCCTGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTTGAAGGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PhelleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTGGACGCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAAC---CAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTGGAGÁT CÓTT CÓTT CÓT Á CÓT CGGCAGTGCCTACCATGCT GCCCGGAGAGACATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ThrargileLeuProAsnLeuTyrLeuGlyCysGlnargaspValLeuAsnLysGluLeu 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LeuCysGluGlyLysSerThrLeu-------ValProThrCysIleSer 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAGCCTTGGACTGGAGTGCAGCTCCTGTGGGACCCCACTACACGACCAGGAGGGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCTGTTCTAAAACCAAGGCCCTGGCAGCCATCCCACCCCGGTTCCCCCAGCGCCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCACCGACATCTGCCTGCTCAAAGGCGGCTATGAGAGGTTTTTCCTCCGAGTACCCAGAA 521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGly 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGCCTCCGCGAGGACAGCACCGTGTCGCTGGTGGTGCAGGCGCTGCCCCGCAACGCCGAG 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerLeuSerSerhspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ValAspIleAspCysSerGlnLysValValTyrAspGlnSerSerGlnAspValAla 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -ACCTCGCAGTTCGTCTTCAGCTTTCCGGTC---TCCGTGGGC
                                                                                                                                            ---CACAGCCCCATCACCACCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----AsnIleGlyPro
                                                                                                                                                                                                                                                                                                                                                        1091
                                                                                                                                                                                                                                                                                                                                                                                          319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            581
                                           밁
                                                                              Ş
                                                                                                                    밁
                                                                                                                                            δ
                                                                                                                                                                                     В
                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; LENGTH: 1238
; TYPE: DNA
; ORGANISM: Homo s
US-09-736-457-803
                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-029-345A-109 (1-665) x US-09-736-457-803 (1-1238)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Carter, Darrick
APPLICANT: Retter, Marc
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mang, Aijun
APPLICANT: Wang, Aijun
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C15
CURRENT APPLICATION NUMBER: US/09/736,457
CURRENT FILING DATE: 2000-12-13
NUMBER OF SEQ ID NOS: 1864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER: FAST,
SOFTWARE: FAST,
SEQ ID NO 803
FRIGHT: 1238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 803, Application US/09736457
Patent No. 6509448
GENERAL INFORMATION:
APPLICANT: Wang, Tongtong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
APPLICANT:
180 IleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAsp
                                                                                                                                                                                                                           135
                                                                                                                                                                                                                                                            462
                                                                                                                                                                                                                                                                                                                                402
                                                                                                                                                                                                                                                                                                                                                                                                     342
                                                                                                                                                                                                                                                                                                                                                                                                                                                           282 GCTAAGGGCTCCGTGAGCCTGGAGCAGATCCTGCCCGCCGAGGAGGAGGTACGCGCCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              225
                                                                                                                                                                                                                                                                                                                                                                 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               39 ThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19 LeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsn
                                 GTGGAGATCCTTCCCTTCTACCTCGGCAGTGCCTACCATGCTGCCCGGAGAGACATG
                                                                                                      GAGCCCTTGGACCTGGAGCTGCAGCTCCTGTGGGACCCCACTACACGACCAGGAGGGTCCT
                                                                                                                                                                                                                                               GCACCGACATCTGCCTCAAAAGCCGGCTATGAGAGGTTTTCCTCCGAGTACCCAGAA
                                                                 ThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeu 179
                                                                                                                                                   GlnPro----
                                                                                                                                                                          TTCTGTTCTAAAACCAAGGCCCTGGCAGCCATCCCACCCCGGTTCCCCCCAGCGCCACA 581
                                                                                                                                                                                                                   LeuCysGluGlyLysSerThrLeu-----
                                                                                                                                                                                                                                                                                                                                                  SerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe--- 115
                                                                                                                                                                                                                                                                           ---AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGly 134
                                                                                                                                                                                                                                                                                                                    AGCCTCCGCGAGGACAGCACCGTGTCGCTGGTGGTGCAGGCGCTGCGCCGAACGCCGAG
                                                                                                                                                                                                                                                                                                                                                                                        ValAspIleAspCysSerGlnLysValValTyrAspGlnSerSerGlnAspValAla 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlnGlnAspLysValLeuIleThrGluLeuIle-----GlnHisSerAlaLysHisLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCGGGCTACÁTCCTÁGGTTCGGTCÁÁCGTGCGCTGTAACACCATCGTGCGGCGGCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wang, Tongtong
Bangur, Chaitanya (
Lodes, Michael A.
Fanger, Gary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Vedvick,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2.14e-37
453.00
50.52%
31.41%
13.25%
                                                                                                                                              ------CγsLeuProValAla----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Tom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FOR THE THERAPY
                                                                                                                                                                                                             ----ValProThrCysIleSer 148
                                                                                                                                        ------AsnIleGlγPro 159
                                                                                                        641
                                                                                                                                                                                                                                                 521
                                                                                                                                                                                                                                                                                                                    461
                                                                                                                                                                                                                                                                                                                                                                                                                                                             341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      224
```

RESULT 8 US-09-736-457-803

밁 Ś 뮍 á 밁 Ś 밁 Ś 片 Ś 밁 Ş 밁 δ В Ś 밁 5 B Ś 밁 δ 밁 Ś 밁 Ś 뮺 Ş 밁 Ş 밁 δ 밁 Ś 밁

1173

GTGCACTCGGCCCCAGCAGCCTGCCCTACCTG---

340

380 Leuser 381

CCCAGC 1232

1059 GCCACGTCCTGTGCTGCGGAGGCTGCTAGC---

300

939

240 819

```
청 음
                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 9
US-09-614-124B-803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5
                                Pred. No.:
                                                 Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      문
   Percent Similarity:
                                                                               US-09-614-124B-803
                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 803, Application US/09614124B Patent No. 6630574
                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                            LENGTH: 1238
TYPE: DNA
ORGANISM: Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1227 CCCAGC 1232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       759 TTTGAAGGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       200 PheIleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LeuSer 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ValProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAla 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AsnGluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AsnGlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysPro 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCATCTCGCCCAACTTCAGCTTCATGGGGCAGCTGCTGCAGTTCGAGTCCCAGGTGCTG 1058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGATGAAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTGCTGGTGCACTGCCAGGCGGCCATCTACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGCTCCTGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuProTrpLeuAвpLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTGCACTCGGCCCCAGCAGCCTGCCCTACCTG-----CACAGCCCCATCACCACCTCT 1226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProCysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSer 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCACGTCCTGTGCTGCGAGGCTGCTAGC-----CCC
2.14e-37
453.00
50.52%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCTCGCAGTTCGTCTTCAGCTTTCCGGTC---TCCGTGGGC
Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity:
Query Match:
DB:
                                                              밁
                                                                                                                                                  δ
                                                                                                                                                                                        멍
                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                        δ
                                                                                          Ś
                                                                                                                           밁
                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-029-345A-109 (1-665) x US-09-614-124B-803 (1-1238)
   1092 TCGGGACCCCTG---
                                                                1059 GCCACGTCCTGTGCTGCGGAGGCTGCTAGC--
                               320 AsnGluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerPro
                                                                                                                                                                                          879
                                                                                                                                                                                                                                                                         240 ValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIle
                                                                                                                                                                                                                                                                                                                    819 AGCTCCTGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGC 878
                                                                                                                                                                                                                                                                                                                                           220 LeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCys
                                                                                                                                                                                                                                                                                                                                                                                 759
                                                                                                                                                                                                                                                                                                                                                                                                                                               702 CTGGACGCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAAC---CAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180 IleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              160 ThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeu 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           582 GAGCCCTTGGACCTGGACTGCAGCTCCTGTGGGACCCCACTACACGACCAGGAGGGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         149 GlnPro-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            225 GCGGGCTACATCCTAGGTTCGGTCAACGTGCGCTGTAACACCATCGTGCGGCGGCGG---
                                                                                                                                                                                                                                                                                                                                                                                                             200 PhelleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       135 LeuCysGluGlyLysSerThrLeu-------------------ValProThrCysIleSer 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                282 GCTAAGGGCTCCGTGAGCCTGGAGCAGATCCTGCCCGCCGAGGAGGAGGTACGCGCCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           168 CTGCCGAGCGGC---GGCAAGTGCCTGCTGCTGGACTGCAGACCGTTCCTGGCGCACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   77 ValAspIleAspCysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAla 96 :::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           59 GlnGlnAspLysValLeuIleThrGluLeuIle-----GlnHisSerAlaLysHisLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19 LeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          39 ThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTGGAGATCCTTCCCTCTACCTCTGGCAGTGCCTACCATGCTGCCCGGAGAGACATG
                                                                                                                                          ThrileSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLys 299
                                                                                                                                                                                                                                                        GTGCTGGTGCACTGCCAGGCGGCATCTCGCGGTCGGCCACCATCTGCCTGGCCTACCTG
                                                                                                                                                                                                                                                                                                                                                                                 TTTGAAGGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ---AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGly 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe--- 115
                                                                                            AsnGlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysPro 319
                                                                                                                              ATCATCTCGCCCAACTTCAGCTTCATGGGGCAGCTGCAGTTCGAGTCCCAGGTGCTG 1058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTGTTCTAAAACCAAGGCCCTGGCAGCCATCCCACCCCCGGTTCCCCCCAGCGCCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCACCGACATCTGCCTGCAAAGGCGGCTATGAGAGGTTTTTCCTCCGAGTACCCAGAA 521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGCCTCCGCGAGGACAGCACCGTGTCGCTGGTGGTGCAGGCGCTGCGCCGCAACGCCGAG 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      31.41%
13.25%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         --CγsLeuProValAla-------AsnIleGlγPro 159
   -----GGGGAGCGGGGCAAGACCCCCGCCACCCCC 1133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         143
46
13
                                                                -CCC 1091
                                339
                                                                                                                                                                                                                                                                                        259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          581
                                                                                                                                                                                                                                                        938
                                                                                                                                                                                                                                                                                                                                                                                  818
                                                                                                                                                                                                                                                                                                                                                                                                                  219
                                                                                                                                                                                                                                                                                                                                                                                                                                                 758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            224
```

```
APPLICANT: Mannion, Jane
APPLICANT: Fan, Liqun
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478012
CURRENT APPLICATION NUMBER: US/99/671,325
CURRENT FILING DATE: 2000-09-26
NUMBER OF SEQ ID NOS: 1825
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 803
LENGTH: 1238
TYPE: DNA
TYPE: DNA
TYPE: DNA
TYPE: DNA
                                                                                                     Ś
                                                                                                                                    片
                                                                                                                                                                 S
                                                                                                                                                                                                         片
                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best
                                                                                                                                                                                                                                                                                                                                                                                               US-10-029-345A-109 (1-665) x US-09-671-325-803 (1-1238)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-671-325-803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 10
US-09-671-325-803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 803, Application US/09671325 Patent No. 6667154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1173
             462
                                            116
                                                                                                                                    402
                                                                                                                                                                                                 282 GCTAAGGGCTCCGTGAGCCTGGAGCAGATCCTGCCCGCCGAGGAGGAGGTACGCGCCCGC
                                                                                                                                                                                                                                                                        225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1227 CCCÁGC 1232
                                                                                                          97
                                                                                                                                                                                                                                                                                                                                       168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                         77
                                                                                                                                                                                                                                        59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  340
                                                                                                                                                                                                                                                                                                        39
                                                                                                                                                                                                                                                                                                                                                                       19
                                                                                                  SerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe---
      ---AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGly 134
                                                                                                                                                        ValAspIleAspCysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAla
                                                                                                                                                                                                                               GlnGlnAspLysValLeuIleThrGluLeuIle-----GlnHisSerAlaLysHisLys 76
                                                                                                                                                                                                                                                                GCGGGCTACATCCTAGGTTCGGTCAACGTGCGCTGTAACACCATCGTGCGGCGGCGG---
                                                                                                                                                                                                                                                                                      ThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu ::::||||||
                                                                                                                                                                                                                                                                                                                                                   LeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Wang, Tongtong
Bangur, Chaitanya S
Lodes, Michael A.
Fanger, Gary
Vedvick, Tom
Carter, Darrick
Retter, Marc
Mannion, Jane
                                                                   AGCCTCCGCGAGGACAGCACCGTGTCGCTGGTGCAGGCGCTGCGCCGAACGCCGAG
                                                                                                                                                                                                                                                                                                                                  CTGCCGAGCGGC---GGCAAGTGCCTGCTGCTGGACTGCAGACCGTTCCTGGCGCACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTGCACTCGGCCCCCAGCAGCCTGCCCTACCTG-----CACAGCCCCATCACCACCTCT 1226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ValProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ProCysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                            2.14e-37
453.00
50.52%
31.41%
13.25%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -ACCTCGCAGTTCGTCTTCAGCTTTCCGGTC---TCCGTGGGC 1172
                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FOR
                                                                                                                                                                                                                                                                                                                                                                                                                             1238
120
73
143
46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HHE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           THERAPY
      521
                                                                                                     115
                                                                                                                                                                    96
                                                                                                                                                                                                                                                                                                                                  224
                                                                                                                                    401
                                                                                                                                                                                                  341
                                                                                                                                                                                                                                                                                                 58
                                                                                                                                                                                                                                                                 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                379
                                                                                                                                                                                                                               RESULT 11
US-09-589-184-803
                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                           뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뭥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                 APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                 Sequence 803, Application US/09589184 Patent No. 6686447
APPLICANT: Wang, Tongtong
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Lodes, Michael A.
APPLICANT: Lodes, Michael A.
APPLICANT: Fanger, Gary
APPLICANT: Fanger, Gary
APPLICANT: Carter, Darrick
APPLICANT: Retter, Marc
APPLICANT: Retter, Marc
APPLICANT: Mannion, Jane
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THERAPY AND
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C8
                                                                                                                                                                                                                                                                                                                                               1173
                                                                                                                                                                                                                                                                                                                                                                                                              1134
                                                                                                                                                                                                                                                                                1227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1092
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1059
                                                                                                                                                                                                                                                                                                                 380
                                                                                                                                                                                                                                                                                                                                                                  360 ValProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAla 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     160 ThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180 IleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            582 GAGCCCTTGGACCTGGACTGCAGCTCCTGTGGGACCCCACTACACGACCAGGAGGGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         522 TTCTGTTCTAAAACCAAGGCCCTGGCAGCCATCCCACCCCGGTTCCCCCCAGCGCCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        135 LeuCysGluGlyLysSerThrLeu----
                                                                                                                                                                                                                                                                                CCCAGC 1232
                                                                                                                                                                                                                                                                                                               LeuSer 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCATCTCGCCCAACTTCAGCTTCATGGGGCAGCTGCTGCAGTTCGAGTCCCAGGTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                    ProCysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGCTCCTGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGC
                                                                                                                                                                                                                                                                                                                                             GTGCACTCGGCCCCAGCAGCCTGCCCTACCTG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCACGTCCTGTGCTGCGGAGGCTGCTAGC--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AsnGlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysPro 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCys 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AsnGluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATGATGAAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTGCTGGTGCACTGCCAGGCGGCATCTCGCGGTCGGCCACCATCTGCCTGGCCTACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTTGAAGGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PheIleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGGACGCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAAC---CAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTGGAGATCCTTCCCTCTACCTCGGCAGTGCCTACCATGCTGCCCGGAGAGACATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlnPro----
                                                                                                                                                                                                                                                                                                                                                                                                         - ACCTCGCAGTTCGTCTTCAGCTTTCCGGTC---TCCGTGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CysLeuProValAla------AsnIleGlyPro
                                                                                                                                                                                                                                                                                                                                             -CACAGCCCCATCACCACCTCT 1226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -ValProThrCysIleSer
                                                                                                                                                                                                                                                                                                                                                                                                         1172
                                                                                                                                                                                                                                                                                                                                                                                                                                           359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       299
```

938 259 878

818 219 758 199 701

641 159

δ 닭

```
; SEQ ID NO 803
; LENCTH: 1238
; TYPE: DNA
; ORGANISM: Homo sapien
US-09-589-184-803
                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                   ঠ
                                                                                                            밁
                                                                                                                                     ঠ
                                                                                                                                                                            밁
                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                    ঠ
                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-029-345A-109 (1-665) x US-09-589-184-803 (1-1238)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/09/589,184
CURRENT FILING DATE: 2000-06-05
NUMBER OF SEQ ID NOS: 827
SOFTMARE: FastSEQ for Windows Version 3.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ю
:
                                                                                                                                                                                                                                                                                                                                                                                                            582
                                                                                                                                                                                                                                                                                                                                                                                                                                               149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       282
                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                         160
 260
                                    879
                                                                                                                                                220
                                                                                                                                                                                     759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        59 GlnGlnAspLysValLeuIleThrGluLeuIle-----GlnHisSerAlaLysHisLys 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19 LeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                     ThrargIleLeuProasnLeuTyrLeuGlyCysGlnargaspValLeuasnLysGluLeu 179
                                                                                                                                                                                                                                                                                                                                                                                                          GAGCCCTTGGACCTGGAGCTGCAGCTCCTGTGGGACCCCACTACACGACCAGGAGGGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                               GlnPro------CysLeuProValAla----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCACCGACATCTGCCTCAAAAGGCGGCTATGAGAGGTTTTCCTCCGAGTACCCAGAA 521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCCTCCGCGAGGACAGCACCGTGTCGCTGGTGGTGCAGGCGCTGCGCCGCAACGCCGAG 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ValAspIleAspCysSerGlnLysValValTyrAspGlnSerSerGlnAspValAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCTAAGGGCTCCGTGAGCCTGGAGCAGATCCTGCCCGCCGAGGAGGAGGTACGCCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCGGGCTACATCCTAGGTTCGGTCAACGTGCGCTGTAACACCATCGTGCGGCGGCGG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu 58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTGCCGAGCGGC---GGCAAGTGCCTGCTGCTGGACTGCAGACCGTTCCTGGCGCACAGC
MetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgPro 279
                                                                                                              AGCTCCTGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGC 878
                                                                                                                                               LeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCys 239
                                                                                                                                                                                                                      PheIleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIle
                                                                                                                                                                                                                                                           CTGGACGCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAAC---CAC
                                                                                                                                                                                                                                                                                            IleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAsp
                                                                                                                                                                                                                                                                                                                                    GTGGAGATCCTTCCTCTACCTCGGCAGTGCCTACCATGCTGCCCGGAGAGACATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTCTGTTCTAAAACCAAGGCCCTGGCAGCCATCCCACCCCGGTTCCCCCCAGCGCCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe---
                                    GTGCTGGTGCACTGCCAGGCGGGCATCTCGCGGGTCGGCCATCTGCCTGGCCTACCTG 938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ---AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGly 134
                                                         ValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIle 259
                                                                                                                                                                                     TTTGAAGGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2.14e-37
453.00
50.52%
31.41%
13.25%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                               ------AsnIleGlyPro 159
                                                                                                                                                                                                                        219
                                                                                                                                                                                                                                                                                                 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       341
                                                                                                                                                                                     818
                                                                                                                                                                                                                                                                                                                                    701
                                                                                                                                                                                                                                                                                                                                                                                                              641
                                                                                                                                                                                                                                                             758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 281
```

```
á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-016-434-1100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1100, Application US/09016434 Patent No. 6500938
                                                                                                            INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS: LENGTH: 2240 base pair
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: Zeller, Karen J.
REGISTRATION UMBER: 37,071
REFERENCE/DOCKET NUMBER: PA
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Word Perfect 6.1 for Windows/MS-DOS
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET: 31/7 CITY: PALO ALTO CITY: CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Janice Au-Young
APPLICANT: Jeffrey J. Seilhamer
TITLE OF INVENTION: COMPOSITION FOR THE DETECTION OF SIGNALING
TITLE OF INVENTION: PATHWAY GENE EXPRESSION
NUMBER OF SEQUENCES: 1490
CORRESPONDENCE ADDRESS:
IMMEDIATE SOURCE:
LIBRARY: GENBA
CLONE: 9125578
                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                        STRANDEDNESS:
                                                                                                                                                                                                                                                                                                     FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: FILING DATE: HEREW
                                                           TOPOLOGY:
                                                                                            TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZIP: 94304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE: INCYTE PHARMACEUTICALS, INC
STREET: 3174 PORTER DRIVE
                                                                                                                                                                                       TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1092
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1227 CCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   999 ATCATCTCGCCCAACTTCAGCTTCATGGGGCAGCTGCTGCAGTTCGAGTCCCAGGTGCTG 1058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          939 ATGATGAAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      380 LeuSer 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     280 ThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCACGTCCTGTGCTGCGGAGGCTGCTAGC-------CCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGCACTCGGCCCCAGCAGCCTGCCCTACCTG-----CACAGCCCCATCACCACCTCT 1226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ValProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAla 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ProCysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSer 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCGGGACCCCTG--------GGGGAGCGGGCAAGACCCCCGCCACCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AsnGluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AsnGlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysPro.319
 g1255784
                                                                                                                  2240 base pairs
                                                                                                                                                                       (650) 845-4166
                                                         linear
                                                                                                                                                                                         650) 855-0555
                                                                                                                                                                                                                                                                                                                                                                                                  HEREWITH
                                                                          single
                                                                                                                                                                                                                                                                                                                                                                                                                       US/09/016,434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -ACCTCGCAGTTCGTCTTCAGCTTTCCGGTC---TCCGTGGGC
                                                                                                                                                                                                                              PA-0002
                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            299
```

```
S
                               맑
                                                       S
                                                                                          밁
                                                                                                                   8
                                                                                                                                                      뫄
                                                                                                                                                                          δ
                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                     뫄
                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Я
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-029-345A-109 (1-665) x US-09-016-434-1100 (1-2240)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-016-434-1100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             No.:
                              1065 ATCATCTCGCCCAACTTCAGCTTCATGGGACAGCTGCTGCAGTTCGAGTCCCAGGTGCTG 1124
                                                                                                                                                       945
 300
                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                         200
                                                                                                                                                                                                                                              220
                                                                                                                                                                                                                                                                                                                                       768
                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                 708
                                                                                                                                                                                                                                                                                                                                                                                                                               160
                                                                                                                                                                                                                                                                                                                                                                                                                                                             648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              291 GCGGGCTACATCCTAGGTTCGGTCAACGTGCGCTGTAACACCATCGTGCGGCGGCGG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        588 TTCTGTTCTAAAACCAAGGCCCTGGCAGCCATCCCACCCCCGGTTCCCCCCCAGCGCCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        234 CTGCCGAGCGGC---GGCAAGTGCCTGCTGCTGGACTGCAGACCGTTCCTGGCGCACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19
                                                       ThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLys 299
                                                                                          ATGATGAAGAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGC 1064
                                                                                                                                                                                                                                                                                                                                                                                                GTGGAGATCCTTCCCTTCCTACCTCGGCAGTGCCTACCATGCTGCCCGGAGAGACATG
                                                                                                                                                                                                                                             LeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCys 239
 AsnGlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysPro 319
                                                                                                                                                                         ValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIle 259
                                                                                                                                                                                                                                                                                                                                                           IleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAsp
                                                                                                                    MetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgPro 279
                                                                                                                                                      GTGCTGGTGCACTGCCAGGCGGCATCTCGCGGTCGGCCACCATCTGCCTGGCCTACCTG
                                                                                                                                                                                                                                                                                                                                     CTGGACGCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAAC---CAC 824
                                                                                                                                                                                                                                                                                                                                                                                                                    ThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeu 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAGCCCTTGGACCTGGGCTGCAGCTCCTGTGGGACCCCACTACACGACCAGGGGGGGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlnPro----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCTAAGGGCTCCGTGAGCCTGGAGCAGATCCTGCCCGCCGAGGAGGAGGTACGCGCCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu 58
                                                                                                                                                                                                                AGCTCCTGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGC
                                                                                                                                                                                                                                                                            TTTGAAGGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATC
                                                                                                                                                                                                                                                                                                       PheIleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LeuCysGluGlyLysSerThrLeu-------ValProThrCysIleSer 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCACCGACATCTGCCTGCTCAAAGGCGGCTATGAGAGGTTTTCCTCCGAGTACCCAGAA 587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ---AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGly 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGCCTCCGCGAGGACAGCACCGTGTCGCTGGTGGTGCAGGCGCTGCGCCGCAACGCCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe--- 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTGCGCTCCGGCCTCTACTCGGCGGTCATCGTCTACGACGACGGCCAGCCCGCGCCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ValAspIleAspCysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlnGlnAspLysValLeuIleThrGluLeuIle-----GlnHisSerAlaLysHisLys 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9.35e-37
451.50
51.81%
31.61%
13.21%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative: Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 140
46
14
                                                                                                                                                                                                                                                                                                         219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        647
                                                                                                                                                                                                                944
                                                                                                                                                                                                                                                                           884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              347
                                                                                                                                                                                                                                                                                                                                                                                                767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      38
                                                                                                                                                                             δÃ
Ş
                              밁
                                                    Ş
                                                                                          망
                                                                                                                   Ś
                                                                                                                                                    밁
                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                   Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL
```

```
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                     Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                            US-10-029-345A-109 (1-665) x US-09-702-705-825 (1-2064)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Alignment Scores
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-702-705-825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-702-705-825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: Fa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 825, Appl
Patent No. 6504010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER FILE REFERENCE: 210121.478C14
CURRENT APPLICATION NUMBER: US/09/702,705
CURRENT FILING DATE: 2000-10-30
NUMBER OF SEQ ID NOS: 1833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1125 GCCACGTCCTGTGCTGCGAGGCTGCTAGC--
                                                                                                              625 GCTAAGGGCTCCGTGAGCCTGGAGCAGATCCTGCCCGCGAGGAGGAGGTACGCGCCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     357
                                   685 TIGOGOTOCOGOCOTOTACTOCOCOGÓTICATOCTACIGACIGAGOGOCAGICOCOGOGOGOGAG 744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION:
                                                                                                                                                                                                                           39 ThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu 58
                                                                                                                                                                                                                                                                                          19 LeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bangur, Chaitany,
Lodes, Michael A
Fanger, Gary
Vedvick, Tom
Carter, Darrick
Retter, Marc
Mannion, Jane
Mannion, Jane
SerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe---
                                                                                                                                                GlnGlnAspLysValLeuIleThrGluLeuIle-----GlnHisSerAlaLysHisLys
                                                                                                                                                                                         GCGGGCTACATCCTAGGTTCGGTCAACGTGCGCTGTAACACCATCGTGCGGCGGCGG---
                                                                         ValAspIleAspCysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAla
                                                                                                                                                                                                                                                                     CTGCCGAGCGGC----GGCAAGTGCCTGCTGGACTGCAGACCGTTCCTGGCGCACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TAGAGCCGCCCTGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AsnGluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSer-Pr 339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            lGlnAlaLeuSerGly 382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCAGCCTGCCTACCTGCACAGCCCCATCACCACCTCTC--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   oAlaSerValProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuVa 377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            oProCysAlaAspSerAlaThr-----SerGluAlaAlaGlyGlnArgProValHisPr 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCGGGACCCCTG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCTCGCAGTTCGTCTTCAGCTTTCCGGTCTCCGTGGGCGTGCACTCGGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Wang,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Application US/09702705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tongtong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chaitanya
Michael A.
                                                                                                                                                                                                                                                                                                                                                                                               1.02e-36
450.50
51.81%
31.61%
13.18%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    တ
                                                                                                                                                                                                                                                                                                                                                                                                                   Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                   Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ---CGGGAGCGGGGCAAGACCCCCCGCCACCCCC
                                                                                                                                                                                                                                                                                                                                                                               2064
122
78
140
46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCAGCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -ccc
                                                                                                                684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1157
                                                                           96
                                                                                                                                                      76
                                                                                                                                                                                           624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1253
```

```
RESULT 14
US-09-736-457-825
Sequence 825, App.
Patent No. 65094
GENERAL INFORMAT:
GENERAL INFORMAT:
GAPPLICANT: Band
APPLICANT: Lodd
; Sequence 825, Application US/09736457
PATENT NO. 6509448
; GENERAL INFORMATION:
APPLICANT: Wang, Tongtong
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Lodes, Michael A.
APPLICANT: Fanger, Gary
APPLICANT: Vedvick, Tom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1162
                                                                                                                                                                                                                                       1579 TAGAGCCGCCCTGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1045 CTGGACGCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAAC---CAC 1101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   260 MetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240 ValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    200 PhelleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180 IleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               160 ThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeu 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         925 GAGCCCTTGGACCTGGGCTGCAGCTCCTGTGGGACCCCACTACACGACCAGGGGGGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                149 GlnPro-----GlyPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       135 LeuCysGluGlyLysSerThrLeu-------ValProThrCysIleSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        116 ---AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGly 134
                                                                                                                                                                                                                                                                                                                                                                                                                                               oProCysAlaAspSerAlaThr-----SerGluAlaAlaGlyGlnArgProValHisPr 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGCTCCTGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCACCGACATCTGCCTCCAAAGGCGCTATGAGAGGTTTTCCTCCGAGTACCCAGAA 864
                                                                                                                                                                                                                                                                                                                                                                   oAlaSerValProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuVa 377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCACGTCCTGTGCTGCGGAGGCTGCTAGC------CCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGATGAAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTGGAGATCCTTCCCTCTACCTCGGCAGTGCCTACCATGCTGCCCGGAGAGACATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTCTGTTCTAAAACCAAGGCCCTGGCAGCCATCCCACCCCCGGTTCCCCCCAGTGCCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   lGlnAlaLeuSerGly 382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLys
                                                                                                                                                                                                                                                                                                                          AGCAGCCTGCCTACCTGCACAGCCCCATCACCACCTCTC-
                                                                                                                                                                                                                                                                                                                                                                                                              ACCTCGCAGTTCGTCTTCAGCTTTCCGGTCTCCGTGGGCGTGCACTCGGCCC-----CC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AsnGluProValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSer-Pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AsnGlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTTGAAGGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATC
                                                                                                                                                                                                                                         1594
                                                                                                                                                                                                                                                                                                                          --- CCAGCTGT 1578
                                                                                                                                                                                                                                                                                                                                                                                                                1530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Carter, Darrick
APPLICANT: Retter, Marc
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
ITITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
ITITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
ITITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
ITITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
ITITLE OF INVENTION NUMBER: US/09/736,457
CURRENT APPLICATION NUMBER: US/09/736,457
CURRENT FILING DATE: 2000-12-13
NUMBER OF SEQ ID NOS: 1864
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 825
LENGTH: 2064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
Query Match:
                                          밁
                                                                                ő
                                                                                                                             밁
                                                                                                                                                                    ð
                                                                                                                                                                                                                 맑
                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                      문
                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-029-345A-109 (1-665) x US-09-736-457-825 (1-2064)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-736-457-825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA
ORGANISM: Homo sapiens
                                            1102
                                                                                       200
                                                                                                                                                                                                                                                                                                        925
                                                                                                                                                                                                                                                                                                                                                                                              865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    160
                                                                                                                                                                                                                                                                                                                                               149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                895
  220 LeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCys 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        59
                                                                                                                                                           IleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAsp
                                                                                                                                                                                                                                                                                                        GAGCCCTTGGACCTGGGCTGCAGCTCCTGTGGGACCCCACTACACGACCAGGGGGGGTCCT
                                                                                                                                                                                                                                                                                                                                               GlnPro-----GlyPro 159
                                                                                                                                                                                                                                                                                                                                                                                                                                  LeuCysGluGlyLysSerThrLeu--------ValProThrCysIleSer 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ValAspIleAspCysSerGlnLysValValTyrAspGlnSerSerGlnAspValAla
;;;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCTAAGGGCTCCGTGAGCCTGGAGCAGATCCTGCCCGCCGAGGAGGAGGTACGCGCCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGGGCTACATCCTAGGTTCGGTCAACGTGCGCTGTAACACCATCGTGCGGCGGCGG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu
                                                                                                                                  CTGGACGCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAAC---CAC 1101
                                                                                                                                                                                                                                                                                                                                                                                            TTCTGTTCTAAAACCAAGGCCCTGGCAGCCATCCCACCCCCGGTTCCCCCCAGTGCCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCACCGACATCTGCCTGCTCAAAGGCGGCTATGAGAGGTTTTCCTCCGAGTACCCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlnGlnAspLysValLeuIleThrGluLeuIle-----GlnHisSerAlaLysHisLys
                                          TTTGAAGGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATC
                                                                                   PhelleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIle 219
                                                                                                                                                                                                                     GTGGAGATCCTTCCCTCTACCTCGGCAGTGCCTACCATGCTGCCCGGAGAGACATG
                                                                                                                                                                                                                                                  ThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeu 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ---AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGly 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCCTCCGCGAGGACAGCACCGTGTCGCTGGTGCAGGCGCTGCCGCCGCAACGCCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.02e-36
450.50
51.81%
31.61%
13.18%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2064
122
78
140
46
                                                                                                                                                                                                                     1044
                                                                                                                                                                                                                                                                                                                                                                                            924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               115
```

밁

Ş 밁 ð 吊 S 밁 S 밁 ঠ 밁 Ś 밁 ð 밁 δ

δ 밁 5

199

984

음 성

밁 S 문 S 문 ş 밁 ð

```
5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 15
US-09-614-124B-825
; Sequence 825, Application US/09614124B
; Patent No. 6630574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8 B
                                                                               Percent Similarity:
Best Local Similarity:
Query Match:
              á
                                                                                                                                                                               ; TYPE: DNA; Homo sapiens; ORGANISM: Homo sapiens US-09-614-124B-825
                                         US-10-029-345A-109 (1-665) x US-09-614-124B-825 (1-2064)
                                                                                                                                                     Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                                                      NUMBER OF SEQ ID NOS: 1668
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 825
LENGTH: 2064
                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                        APPLICANT: Retter, Marc
APPLICANT: Mannion, Jane
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C9
CURRENT APPLICATION NUMBER: US/09/614,124B
CURRENT FILING DATE: 2001-07-11
                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Wang, APPLICANT: Bangu
                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                         No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1402 GCCACGTCCTGTGCTGCGAGGCTGCTAGC------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              339
                 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCATCTCGCCCAACTTCAGCTTCATGGGGCAGCTGCTGCAGTTCGAGTCCCAGGTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGCTCCTGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       oAlaSerValProSerValProSerValGlnProSerLeuLeuGluAspSerProLeuVa 377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AsnGluproValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSer-Pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AsnGlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysPro
                                                                                                                                                                                                                                                                                                                                                                                     Bangur, Chaitanya (
Lodes, Michael A.
Fanger, Gary
Vedvick, Tom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TAGAGCCGCCCTGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IGInAlaLeuSerGly 382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCAGCCTGCCCTACCTGCACAGCCCCATCACCACCTCTC----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  oProCysAlaAspSerAlaThr-----SerGluAlaAlaGlyGlnArgProValHisPr 357
LeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsn
                                                                                                                                                                                                                                                                                                                                                           Carter, Darrick
Retter, Marc
                                                                                                                                                                                                                                                                                                                                                                                                                                               Tongtong
                                                                                   1.02e-36
450.50
51.81%
31.61%
13.18%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1594
                                                                                                                                                                                                                                                                                                                                                                                                                                   Ġ
                                                                                                                            Length:
Matches:
                                                                                     Mismatches: Indels:
                                                                                                               Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ---- CGGGAGCGGGGCAAGACCCCCGCCACCCCC
                                                                         2064
122
78
140
46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -CCAGCTGT 1578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Бр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멂
                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                           믕
                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                  Š
                                                                  밁
                                                                                      Ş
                                                                                                                   맑
                                                                                                                                             Ş
                                                                                                                                                                            밁
                                                                                                                                                                                                Ś
                                                                                                                                                                                                                              뫄
                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                        1282
                                                                                                                                                                                                                                                                                                                                              1222
                                                                                                                                                                                                                                                                                                                                                                                                  1162
                                                                                                                                                                                                                                                                                                                                                                                                                                                       1102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        511 CTGCCGAGCGGC---GGCAAGTGCCTGCTGCTGGACTGCAGACCGTTCCTGGCGCACAGC 567
                                                                                                                                                                             1402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     135 LeuCysGluGlyLysSerThrLeu-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               39
                                                                                                                                                                                                                                                                                                                  260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTAAGGGCTCCGTGAGCCTGGAGCAGATCCTGCCCGCCGAGGAGGAGGTACGCGCCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlnGlnAspLysValLeuIleThrGluLeuIle-----GlnHisSerAlaLysHisLys 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCGGGCTACATCCTAGGTTCGGTCAACGTGCGCTGTAACACCATCGTGCGGCGGCGG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ThrSerHisileLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu 58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GlnPro-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCTGTTCTAAAACCAAGGCCCTGGCAGCCATCCCACCCCCGGTTCCCCCCAGTGCCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ValAspIleAspCysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAla 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTGGAGATCCTTCCTCCTCTACCTCGGCAGTGCCTACCATGCTGCCCGGAGAGACATG 1044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ThrargIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeu 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAGCCCTTGGACCTGGGAGCTCCTGTGGGACCCCACTACACGACCAGGGGGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCACCGACATCTGCCTCAAAGGCGGCTATGAGAGGTTTTCCTCCGAGTACCCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ---AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGly 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGCTCCTCGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGC 1221
                                                                                                                                                                                                                                                                                                                                                                                                                          LeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCys 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTTGAAGGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATC 1161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PhelleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIle 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             :::
CTGGACGCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAAC---CAC 1101
                                                                                                                                                                                                                                                    ThrileSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLys
                                                                                                                                                                                                                                                                                                        MetLygArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgPro
                                                                                                                                                                                                                                                                                                                                                              ValleuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIle
                                                                                                                                                                                                    AsnGlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHisLeuGluLysPro 319
                                                                                                                                                                                                                                   ATGATGAAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGC
                                     oAlaSerValproSerValProSerValGlnProSerLeuLeuGluAspSerProLeuVa 377
                                                                                        oProCysAlaAspSerAlaThr-----SerGluAlaAlaGlyGlnArgProValHisPr 357
                                                                                                                         TCGGGACCCCTG------
                                                                                                                                                AsnGluproValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSer-Pr
                                                                                                                                                                               GCCACGTCCTGTGCTGCGGAGGCTGCTAGC----
              AGCAGCCTGCCCTACCTGCACAGCCCCATCACCACCTCTC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -Cγs---LeuProValAlaAsnIle----GlyPro
                                                                                                                            ----cgggagcgggcaagacccccccaccccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----ValproThrCysIleSer 148
                                                                           င္ပ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   924
                                                                                                                                                                                                                                                                                                                                                      1281
                                                                                                                                1476
                                                                                                                                                                                      1434
                                                                                                                                                                                                                                           1401
                                                                                                                                                                                                                                                                                               1341
                       1578
                                                                           1530
                                                                                                                                                                                                                                                                                                                           279
                                                                                                                                                                                                                                                                                                                                                                                 259
```



```
Regult
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
     3406
13026
13026
13026
497.5
469.5
466.5
466.5
4465.5
4445
4444
439.5
420
420
421
421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     June 21, 2004, 13:13:37; Search time 14.4416 Seconds (without alignments) 2397.707 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-029-345A-109
3418
1 MAHEMIGTQIVTERLVALLE.....LGKVGSQSSFSGSMEIIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      141681 seqs, 52070155 residues
     SwissProt_42:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
   B
DUSG HUMAN
DUSB MOUSE
VHP1 CAEEL
VHP1 CAEEL
UNSA HUMAN
DUSA HUMAN
DUSA HUMAN
DUSA GNUSE
DUSG RAT
DUS4 HUMAN
DUSA HUMAN
DUSA HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DUS9 HUMAN
DU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SUMMARIES
P28563 mus musculu
Q64623 rattus norv
P28562 homo sapien
Q05923 homo sapien
Q05923 homo sapien
Q05926 homo sapien
Q05926 mus musculu
Q16829 homo sapien
Q91246 mus musculu
Q54838 rattus norv
Q63340 rattus norv
Q63340 rattus norv
Q6347 homo sapien
Q91147 homo sapien
Q91147 homo sapien
Q8wtr2 homo sapien
Q8wtr2 homo sapien
Q8wtr2 homo sapien
Q8wij0 homo sapien
Q8wij0 homo sapien
Q8wij0 homo sapien
Q60969 mus musculu
Q13453 schizosacch
Q0256 saccharomyc
Q9y6j8 homo sapien
                                                                                                                                                                                                                                                                                                                                                                                    O9by84 homo sapien
O13202 homo sapien
O99112 mus musculu
O10038 caenorhabdi
O16828 homo sapien
O996w6 homo sapien
O9es80 mus musculu
O9dbb1 mus musculu
O64346 rattus norv
O13115 homo sapien
O9pw71 gallus gall
O62767 rattus norv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    665
```

22222222222222222222222222222222222222	77777777777777777777777777777777777777	RRRRRRRR ROCOCO	GO DE DE DE DE DE DE DE DE DE DE DE DE DE	
			SC	00000004444444404000000000000000000000
ween the European by nousifies research an ities research an ities research an ities research and ities research and ities research and ities research and ities research and ities research and ities research and ities research and ities research and ities research and ities research and ities research and ities research and ities research and ities research and ities research and ities research and ities research and ities research and its rese	SEQUENCE FROM N.A. TISSUB-Brain; TISSUB-Brain; MEDLINE-21082932; PubMe MEDLINE-21082932; PubMe "Prediction of the codi The complete sequences for large proteins in v DNA Res. 7:347-355(2000 -!- FUNCTION: Involved -!- CATALYTIC ACTIVITY: -!- CATALYTIC ACTIVITY: -!- CATALYTIC ACTIVITY: -!- CATALYTIC ACTIVITY: -!- SIMILARITY: Belongs Non-receptor class -!- SIMILARITY: Contain	Homo sapiens Homo sapiens Eukaryota; Met Mammalia; Eutit NCBI_TaxID=96([1]] SEQUENCE FROM MEDLINE=21486; Masuda K., Shim MKP-7, a nove functions as & J. Biol. Chem. [2]	HUMAN DUSG HUMAN STA Q98884; Q9COG3; 28-FEB-2003 (Rel. 28-FEB-2003 (Rel. 10-CCT-2003 (Rel. Dusal specificity (Mitogen-activated phosphatase 7) (MK DUSG16 OR MKP7 OR	194.5 189 183.5 183.5 181.5 171.5 170.5 170.5 158.5
PROT en e Swiss n Bioin n-profi d this d this email t email t email t email t e en en en en en en en en en en en en e	FROM N.A. rain; rain; rain; Kikuno R. Ha Kikuno R. Ha on of the codin proteins in vi 7:347-355(2000) TON: Involved in XTIC ACTIVITY: tine + phosphate XTIC ACTIVITY: Shate. LOCATION ARITY: Belongs receptor class d ARITY: Contains	idens (Human) a; Metazoa; butheria; De9606; FROM N.A. 21486429; Pul a novel mitos a shutt sa as shutt Chem. 276:3	STA OG3; (Re1. (Re1. (Re1. (Re1. (Re1.) (Ricity propertion of the control of t	
£7 0 0#1 11 0H3	M N.A. 12932; PubMed=1 12932; PubMed=1 12932; PubMed=1 12 the coding 12 the coding 13 sequences of 14 the coding 14 the coding 14 the coding 15 the coding 16 ACTIVITY: Pr 17 the coding 18 the coding 19 the coding 10 the codin	nan). Chordata; Craniat a; Chordata; Catarrh a; Primates; Catarrh PubMed=11489891; H., Watanabe M., Kik iltogen-activated pro untile protein."; 6:39002-39011(2001).	STANDARD; SCGG3; GRel. 41, Creat GRel. 42, Last GRel. 42, Last GREL 43, Last GREL 44, Last GREL 43, Last GREL 44, Last GREL 43, Last GREL 44, Last GREL 43, Last GREL 43, Last GREL 43, Last GREL 43, Last GREL 43, Last GREL 43, Last GREL 43, Last GREL 43, Last GREL 43,	185 807 276 276 125 135 292 292 292 292 198 340 209
copy ute itute int ise asse asse asse asses is selected in the important i	led=1121 Hattori Hattori Hattori Ing seg of 100 of 100 or 100	lata; ltes; 1148; 1148; inabe inabe inctiv	о врио	
ppyrigh e of B Institutions is no is no sagree saisb-s ALT_I TAS.	tori A., Kon and A	Cra Cat Cat 9891 M., ated n.",	PRT quen nota nhat	DUS3 MSG5 MSG5 PTB3 DUSF DUSF DUSC DU
ht. It litute. Is as lo sement (seib.ch)	1214970; ori A., Kondo) sequences of u 100 new cDNA cl o."; the inactivatic otein tyrosine phosphoprotein Cytoplasmic and the protein-ty 1 specificity a rhodanese dome	aniata; V tarrhini; tarrhini; 1; Xikuchi d protein d protein	; 6 ce up tion ase 1 phos	G5_YEAST G5_YEAST 9T_YEAST 9T_YEAST P3_CHLEU P3_CHLEU P3_CHLEU P3_CHLEU P3_CHLEU P3_CHUMAN SC_MOUSE SC_MOUSE SC_MOUSE SC_HUMAN
is orma orng Oved (See	un clio che che che che	chi sin	65 å date upda 6 (a	S S S S S S S S S S S S S S S S S S S
roduc ics re ar as it Usa http:	Dkum htif fr pha pha ne ne	Hominio Hominio K.; kinase	A. (te) (C 3.1. (ase 7)	
ed thro and the end the end the end the ge by //www.i	ura Kied hied hom br		3.48) (MAP	
- · · · · · · · · · · · · · · ·	i it. 0 No po	a; Euteleo ae; Homo. phosphatas	(EC 3	Q9d7x3 P38590 P38148 Q39491 Q9h152 Q8h74v2 Q9d0t2 P34680 Q9un16 Q9un16 Q9un16 Q9un16
ugh a colla EMBL outs estrictions nt is in and for co sb-sib.ch/a	· m Cla	ostomi; ve,	3. 3. 1.3	
outst ions in r com ch/an	ily of cod	ni;	3.16)	
orat atic on no merc nour	· in le IX			mus musculu saccharomyc saccharomyc chlamydomon homo sapien mus musculu mus musculu caenorhabdi homo sapien homo sapien saccharomyc mus musculu
cion on - its way vial nce/	: !			203342233002

```
Query Match
Best Local S
Matches 663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPRO0340; E; MAFK INGLEUS EXPORT; TAK
InterPro; IPRO0340; Na phosphatase.
InterPro; IPRO0340; MAPK phosph.
InterPro; IPRO01763; Rhodanese-like.
InterPro; IPR001763; Rhodanese; 1:
Pfam; PF00581; Rhodanese; 1.
Pfam; PF00581; Rhodanese; 1.
PF01764; MAFKEHPHTASE.
SMART; SM00195; DSPC; 1.
SMART; SM00450; RHOD; 1.
SMART; SM00450; RHOD; 1.
PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS50206; TYR PHOSPHATASE_2; 1.
PROSITE; PS50056; TYR PHOSPHATASE_2; 1.
PROSITE; PS50056; TYR PHOSPHATASE_DUAL; 1.
PROSITE; PS50056; TYR PHOSPHATASE_DUAL; 1.
PROSITE; PS50056; TYR PHOSPHATASE_DUAL; 1.
PROSITE; PS50056; TYR PHOSPHATASE_DUAL; 1.
PROSITE; PS50056; TYR PHOSPHATASE_DUAL; 1.
PROSITE; PS50056; TYR PHOSPHATASE_DUAL; 1.
PROSITE; PS50056; TYR PHOSPHATASE_DUAL; 1.
PROSITE; PS50056; TYR PHOSPHATASE_DUAL; 1.
PROSITE; PS50056; TYR PHOSPHATASE_DUAL; 1.
PROSITE; PS50056; TYR PHOSPHATASE_DUAL; 1.
PROSITE; PS50056; TYR PHOSPHATASE_DUAL; 1.
PROSITE; PS50056; TYR PHOSPHATASE_DUAL; 1.
PROSITE; PS50056; TYR PHOSPHATASE_DUAL; 1.
PROSITE; PS50056; TYR PHOSPHATASE_DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                            541
                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GO:0004721; F:protein phosphatase activity; TAS.
GO:0016311; P:dephosphorylation; TAS.
GO:0000188; P:inactivation of MAPK, TAS.
GO:0045209; P:leptomycin B-sensitive MAPK phosphatase nuc.
GO:0045204; P:MAPK nucleus export; TAS.
                                                                                                                                                                         481
                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           663;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    \vdash
QKPSDRADSRRSWHEESPFEKOFKRRSCOMEFGESIMSENRSREELGKVGSOSSFSGSME
                       OKPSDRADSRRSWHEESPFEKQFKRRSCOMEFGESIMSENRSREELGKVGSOSSFSGSME
                                                                                                     SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                          SKRLHSVRTSSSGTAORSLLSPLHRSGSVEDNYHTSFLFGLSTSOOHLTKSAGLGLKGWH
                                                                                      SDILAPOTSTPSLTSSWYFATESSHFY
                                                                                                                                                                                  SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                          SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                    SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                               PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                 QTGASGPKSKLKLLHLEKÞNEÞVÞAVSEGGQKSETÞLSÞÞCADSATSEAAGQRÞVHÞASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QONGIGYVLNASYTCPKDPFIPESHFLRVPVNDSPCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                         PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                       QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LAGGFABESRCFPGLCBGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSENSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MAHEMIGTOIVTERLVALLESGTEKVLLIDSRÞFVEYNTSHILEATNINCSKLMKRRLQO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLFVANIGFTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DKVLITELIQHSAKHKVDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Í SRBATIAI AY IMKRMDMSLDEAYR FVKEKR ÞTÍ SÞNFN FLGÓLLDY EKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      73101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99.6%;
99.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   idcsokvyvydossodvasissocfitylickieksfnsvhi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 3406; DE Pred. No. 7.7e-1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RHODANESE.
PROTEIN-TYROSINE 1
PHOSPHOCYSTEINE 11
SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1BD853FF08460DFF CRC64;
                                                                             YSASATYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .7e-200;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        E PHOSPHATASE
INTERMEDIATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TAS
                                      660
660
                                                                               600
                                                                                                                      600
                                                                                                                                                            540
                                                                                                                                                                                                   540
                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
```

B S 뮍 8 밁 Ś Дb Ś В Ş В 5 멍 Ş 밁 δ В Ś 밁 Ś 밁 Ş

RHODANESE.
PROTEIN-TYROSINE E
PRO-RICH.
PHOSPHOCYSTEINE IN
SIMILARITY).

INTERMEDIATE PHOSPHATASE

(BY

ы

```
SMART; SMOULT,

R SMART; SMOULT,

R SMART; SMOO450; RHOD; 1.

R PROSITE; PS50206; RHODANESE 3; 1.

DR PROSITE; PS50383; TYR PHOSPHATASE 1; 1.

DR PROSITE; PS50054; TYR PHOSPHATASE 2; 1.

DR PROSITE; PS50054; TYR PHOSPHATASE DUAL; 1.

KW Hydrolase; Nuclear protein.

FT DOMAIN 23 138 RHODANESE.

FT DOMAIN 162 430 PROTEIN-TYRO

DOMAIN 310 550 PRO-RICH.

DOMAIN 310 550 PRO-RICH.

POSTER PROSPECTST
                   R GO; GO:0005737; C:cytoplasm; TAS.

GO; GO:0004725; F:protein tyrosine phosphatase activity; TAS.

GO; GO:0004725; F:protein tyrosine phosphatase activity; TAS.

GO; GO:0006470; P:inactivation of MAPK; TAS.

R GO; GO:0006470; P:protein amino acid dephosphorylation; TAS.

R InterPro; IPR000340; DS phosphatase.

R InterPro; IPR000343; MAPK phosphatase.

R InterPro; IPR000343; Rhodanese-like.

R InterPro; IPR000387; TYR phosphatase.

Pfam; PF00782; DSPc; 1.

R Pfam; PF00782; DSPc; 1.

R SMART; SM00195; DSPc; 1.

R SMART; SM00450; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 2
DUS8_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             日
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C TISSUE=Fetal brain;

X MEDLINE=96009533; PubMed=7561881;

A Marrell K.J., Seasholtz A.F., Kwak S.P., Clemens K.K., Diy

T "hVH-5: a protein tyrosine phosphatase abundant in brain t

inactivates mitogen-activated protein kinase.";

L J. Neurochem. 65:1823-1833(1995).

C -!- FUNCTION: This protein shows both activity toward tyro

phosphate as well as with serine/threonine-protein pho

similarity).

C -!- CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)C

-!- CATALYTIC ACTIVITY: A phosphoprotein + H(2)O = a prote
                                                                                                                                                                                                                                                                                                                                                                EMBL; U27193; AAA83151.1;
HSSP; Q16828; 1MKP.
Genew; HGNC:3074; DUSP8.
                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DUSB HUMAN STANDARY (201202)
(201202)
15-JUL-1999 (Rel. 38, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
15-MAR-2004 (Rel. 43, Last annotation update)
Dual specificity protein phosphatase 8 (EC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (Human).
Eukaryota; Metazoa; C
Mammalia; Eutheria; F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                        602038;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Craniata; Vertebrata; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  n update)
8 (EC 3.1.3.48)
e hVH-5).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               s K.K., Dixon in brain that
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Euteleostomi; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            skeletal muscl
chatase family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   H(2)0 = protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (EC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tyrosine-protein
                                                                                                                                                                                                                                                                                      TAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   phosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3.1.3.16)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             J.E.;
```

•)

```
RESULT 3
DUS8 MOSS
ID DUS9 CO
ID DUS9 CO
ID DUS9
AC 0091
DT 15-0
DT 10-0
DT 10-0
DE DUS9
CO MAD
OC ENK
OC MAM
OX NCB3
RN [1]
RN [1]
RN [1]
                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                        ち 유
                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              중 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           So
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches 314;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                DUSP8 OR NTTP1.
Mus musculus (Mouse).
Eukaryota; Metazoa; C
Mammalia; Eutheria; I
                                                                                                                                                  DUS8 MOUSE
009112;
15-JUL-1999
15-JUL-1999
10-OCT-2003
                                                                                                                      15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 8 (EC 3.1.3.48)
(Neuronal tyrosine threonine phosphatase 1).
                                                                                                                                                                                                                          MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
             SEQUENCE FROM N.A. TISSUE-Brain;
MEDLINE=96311565; PubMed=8733137;
                                                   NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local
                                                                                                                                                                                                                                                                                  590
                                                                                                                                                                                                                                                                                                           630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                MEFEEG-MVEGRARGEELAALGKQASFSGSVEVIEVS
                                                                                                                                                                                                                                                                                                           MEFGESIMSENRSR-EELGKVGSQSSFSGSMEIIEVS
                                                                                                                                                                                                                                                                                                                                        GAQGAGGVLFAPFGRAGAPGPGGGSDLRRREAARAEPRDARTGWPEEPAPETQFKRRSCQ
                                                                                                                                                                                                                                                                                                                                                                                                AARQTPRHGLSALSAPGLPGPGQPAGPGAWAPPLDSP--GTPSPDGPWCFSPE-----
                                                                                                                                                                                                                                                                                                                                                                                                                         --LSTSQQHLTKSAGLGLKG------WHSDILAPQTSTPSLTSSWYFATESSHFYSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KEEASIPKKLQTARPSDSQSKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AASLHGFSSSEDALEYYKPSTTLDGTN-----KLCQF-SP---VQELSEQTPETSPD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GLSAGGEPPAPPTPPA---TSALQQGLRGLHLSSDRLQDTNRLKRSFSLDIKSA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PVHPASVPSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KLLAALQGDPG-----TPSGTPEPPPSPAAGAPLPRLP--PPTSESAATGNAAAREG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QVIVHCLAGISRSATIAIAYIMKTMGMSSDDAYRFVKDRRPSISPNFNFLGQLLEYERTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LMTQNGISYVLNASNSCPKPDFICESRFMRVPINDNYCEKLLPWLDKSIEFIDKAKLSSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ILTGGFATFSSCFPGLCEGKPAALLPMSLSQPCLPVPSVGLTRILPHLYLGSQKDVLNKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LLAGGEAEFSRCFPGLCEGK-STLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QKVTIAELIQPAARSQVEATEPQDVVVYDQSTRDASVLAADSFLSILLSKLDGCFDSVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QDKVLITELIQHSAKHKVDIDCSQKVVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVH
                                                                                                                                                                                                                                                                                                                                                                 SAIYGGSASYSAYSCSQLPTCGDQVYSVRRRQKPSDRADSRRSWHEESPFEKQFKRRSCQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KNQTGASGPKSKLKLLHLEKPN---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                               (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           $
                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ----YAPSRRPDGPGPPDPGEAPKLCKLDSPSGAALGLSSPSPD-SPD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           65840 MW;
                                                                    Rodentia;
                                                                               Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 38.8%; Score 1326; DB 1; 45.1%; Pred. No. 2.4e-73;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----PAGSPAR---SPAHSLG-----LNFGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   94; Mismatches 185;
                                                                  Craniata; Vertebrata; I
Sciurognathi; Muridae;
                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DCBEA14487219666 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -EPVPAVSEGGQKSETPLSPPCADSAT--SEAAGQR
                                                                                                                                                                                                             663
                                                                                                                                                                                                             À
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 1;
                                                                                                                                                                                                                                                                                                            665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 625;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                    Euteleostomi;
; Murinae; Mus
                                                                                                                                        (E)
                                                                                                                                        3.1.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   104;
                                                                                                                                                                                                                                                                                                                                                                    629
                                                                                                                                                                                                                                                                                                                                                                                                                            569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   119
                                                                                                                                                                                                                                                                                                                                        589
                                                                                                                                                                                                                                                                                                                                                                                                529
                                                                                                                                                                                                                                                                                                                                                                                                                                                        478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21;
```

```
ঠ
                                                    밁
                                                                           Ś
                                                                                                                           á
                                                                                                                                                                                                                                                                    밁
                                                                                                      문
                                                                                                                                                          뭐
                                                                                                                                                                                  Ś
                                                                                                                                                                                                               Query Match
Best Local Sim
Matches 318;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR000340; DS phosphatase.
InterPro; IPR000343; MAPK phosph.
InterPro; IPR001763; Rhodanese-1.ke.
InterPro; IPR000387; TYR phosphatase.
Pfam; PF00782; DSPC; 1.
                                                                                                                                                                                                                                                                                         DOMAIN
DOMAIN
DOMAIN
DOMAIN
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Theodosiou A.M., Rodrigues N.R., Nesbit M.A., Ambrose H.J., Paterson H., McLellan-Arnold E., Boyd Y., Leversha M.A., Ow Blake D.J., Ashworth A., Davies K.E., "A member of the MAP kinase phosphatase gene family in mous containing a complex trinucleotide repeat in the coding regular MC1 Gener 5.675-604/10061
                                                                                                                                                                                                                                                                                                                                                                                                                SMART; SM00195; DSPC; 1.
SMART; SM00450; RHOD; 1.
PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS00383; TYR_PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR_PHOSPHATASE_2; 1.
PROSITE; PS50054; TYR_PHOSPHATASE_DUAL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hum. Mol. Genet. 5:675-684(1996).
                                                                                                                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRINTS; PR01764; MAPKPHPHTASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; X95518; CAA64772.1; -. HSSP; Q16828; 1MKP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     between
                                                                                                                                                                                                                                                                                                                                                                                                     Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                          DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      phosphate.
SUBCELLULAR LOCATION: Cytoplasmic and nuclear.
TISSUE SPECIFICITY: Expressed predominantly in brain and lung.
SIMILARITY: Belongs to the protein-tyrosine phosphatase family
Non-receptor class dual specificity subfamily.
SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)0 = protein tyrosine + phosphate.
CATALYTIC ACTIVITY: A phosphoprotein + H(2)0 = a protein +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               phosphate as well as with serine/threonine-protein similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SWISS-PROT entry is copyright. It is produced through een the Swiss Institute of Bioinformatics and the En
                         179
                                                    121
                                                                            120
 181
                                                                                                        61
                                                                                                                                 60
                                                                                                                                                                                       ب
                                                                                                                                                                                                                             Similarity
                                                               LLAGGFAEFSRCFFGLCEGKSTLVFT-CISQFCLFVANIGFTRILFNLYLGCQRDVLNKE
            LIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNG
                                                   QDKVLITELIQHSAKHKVDIDCSQKVVVYZDQSSQDVASLSSDCFLTVLLGKLEKSFNSVH 119
                                                                                                                                                           MAHEMIGTQIV-TERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQ
LMTQNGISYVLNASNSCPKPDFICESRFMRIPINDNYCEKLLPWLDKSIEFIDKAKLSSC
                                                                                                        QGKVTTAELTQPATRSQVDATEPQDVVVVYDQSTRDASVLAADSFLSTLLSKLDGCFDSVA
                                                                                                                                                                                                                                                                  663
                                                                                                                                                                                                                                                                                                                                                                                                      Nuclear
                                                                                                                                                                                                               Conservative 102; Mismatches 176;
                                                                                                                                                                                                                                                                                             162
452
555
559
577
311
                                                                                                                                                                                                                                                                    A
,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5:675-684 (1996).
                                                                                                                                                                                                                                                                                                                                                                                                      protein.
                                                                                                                                                                                                                                                                                              68847 MW;
                                                                                                                                                                                                                           38.1%;
                                                                                                                                                                                                                           Score 1302;
Pred. No. 7
                                                                                                                                                                                                                                                                                                                       POLY-SER.
POLY-GLY.
POLY-SER.
                                                                                                                                                                                                                                                                                PHOSPHOCYSTEINE SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                               PROTEIN-TYROSINE POLY-ARG.
                                                                                                                                                                                                                                                                                                           PRO-RICH
                                                                                                                                                                                                                                                                                                                                                                                          RHODANESE
                                                                                                                                                                                                                                                                     416F429A12C1FA7C CRC64;
                                                                                                                                                                                                                           4e-72;
                                                                                                                                                                                                                                           DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    family in mouse
the coding regi
                                                                                                                                                                                                                                                                                              INTERMEDIATE
                                                                                                                                                                                                                                                                                                                                                                               PHOSPHATASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 coding region.";
                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             phosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Owen
                                                                                                                                                                                                                  136;
                                                                                                                                                                                                                                                                                               YB)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a collaboration
MBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Z
                                                                                                                                                                                                                Gaps
                                                      180
                                                                                178
                                                                                                           120
                                                                                                                                                              60
                                                                                                                                                                                       59
```

```
RESULT 4
VHP1_CAEEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                   EMBL; U23178; AAC46719.1;
PIR; T15969; T15969.
HSSP; Q16828; 1MKP.
                                                                                                                                                                                                                                                                                   Caenorhabditis elegans.
Bukaryota; Metazoa; Nematoda;
Rhabditidae; Peloderinae; Caen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VHP1 CAEEL
Q10038;
01-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. STRAIN=Bristol N2; Chissoe S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VHP-1 OR F08B1.1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation updat
Protein-tyrosine phosphatase vhp-1 (EC 3.1.
                                                                                                                                                                                                                                                                          SIMILARITY: Belongs to the protein-tyrosine phosphatase Non-receptor class dual specificity subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         YSVRRROKPSDRADSRRSWHEESDFEKQFKRRSCQMEFGESIMSENRSR-EELGKVGSQS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SFSGSVEVIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SESGSMEILEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FGLSTSQQHLTKSAGL-----GLKGWHSDILAPQTSTPSLTSSWYFATESSH----FY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         D-SVPECRPRPRRRRPPASSPARSPAHGLGLNFGDTARQ---TPRH---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EASIPK----KLQTARPSDSQSKR--LHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -GLSA-----LSAPGLPGPGQPAGPGGWVPPLDSP--GTPSPDGPWCFSPEGAQGPGAVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IKS-AYAPSRRPDFPGPPDPGEAPKLCKLDSPSGGTLGL------PSPSPDSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IKSVSYSASMAASLHGFSSSEDALEYYKDSTTLDGTNKLCQFSPVQELSEQTPETSPDKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EGSPSAGGDAPI-PSTAPATSALQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KNQTG--ASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSAT--SEAA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KLLAALQTDGP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD;
CE01899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -GQRPVHPASVPSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRRSFSLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----HLGTP-EPLMGPAAGIPLPRLP--PSTSESAATGSEAATAAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DVRTGWPEEPAADAOFKRRSCOMEFEEG-MVEGRARGEELAALGKOT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -$AIYGG-----CGDQV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            oda; Chromadorea; Rhabditida; Rhabditoidea; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .48).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QGLRGLHLSSDRLQDTNRLKRSFSLD
                                                                                                                                                                                                                                                                                                  family.
                                                                                                                                                                                                       collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Language Collaboration - Langu
                                                                                                                                                                                                                                                                                                                                            protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    350
```

```
RESULT
DUS6 HU
ID DU
AC
DT 01
DT 01
DT 10
DT 10
DT 04
DT DU
DT DU
DT DU
DT DU
DT DU
DT DU
DT DU
DT DU
DT DU
DT DU
DT DU
DT DU
DT DU
                                                                                                                                                                  Ş
                                                                                                                                                                                               유
                                                                                                                                                                                                                                    멍
                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Sim
Matches 160;
LT 5
HIMMAN STANDARD; PRT; 381 AA.

Q16828; O75109; O9BSH6;
Q1.6828; O75109; O9BSH6;
01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 6 (EC 3.1.3.48) (EC 3.1.3.16)
(Mitogen-activated protein kinase phosphatase 3) (MAP kinase phosphatase 3) (MAP kinase phosphatase 3) (Dual specificity protein phosphatase PySTI)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
DOMAIN
DOMAIN
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROSITE; PS00383; TYR PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR PHOSPHATASE DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR000340; DS_phosphatase.
InterPro; IPR000387; TYR_phosphatase.
Pfam; PF00782; DSPc; 1.
SMART; SM00195; DSPc; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hydrolase.
                                                                                                                                                   530
                                                                                                                                                                         615
                                                                                                                                                                                               484
                                                                                                                                                                                                                       561
                                                                                                                                                                                                                                           461
                                                                                                                                                                                                                                                                   501
                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                              444
                                                                                                                                                                                                                                                                                                                                     380
                                                                                                                                                                                                                                                                                                                                                           390
                                                                                                                                                                                                                                                                                                                                                                                 338
                                                                                                                                                                                                                                                                                                                                                                                                        330
                                                                                                                                                                                                                                                                                                                                                                                                                              278
                                                                                                                                                                                                                                                                                                                                                                                                                                                    297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99
                                                                                                                                                 RMKGFFKVFSKKA 542
                                                                                                                                                                       EESPFEKQFKRRS
                                                                                                                                                                                         SSSSIVVENPFFASTEVPAGSSSISTPSGSQ-
                                                                                                                                                                                                                                          TPAASSS
                                                                                                                                                                                                                     TESSH-----
                                                                                                                                                                                                                                                        SPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWHSDILAPQTSTPSLTSSWYFA
                                                                                                                                                                                                                                                                                 - FNGPEATAPSTPILNFTNPCFNSPITPV--
                                                                                                                                                                                                                                                                                                    QFSPVQELSEQTP----ETSPDKEEASIPKKLQTARPSDSQSKRLHSVRTSSSGTAQRSLL
                                                                                                                                                                                                                                                                                                                                                                           SAASEPETSSSAASSSSTASA-----PPSMPSTSE-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNENFLGQLLDYEK-
|:|||||||||||:||:||
KKCLIHCLAGISRSPTLAISYIMRYMKMGSDDAYRYVKERRPSISPNENEMGQLLEYENV
                                                                                                                                                                                                                                                                                                                                                 LEDSNKLKRSFSLDI-----KSVSYSASMAASLHGFSSSEDALEYYKPSTTLDGTNKLC
                                                                                                                                                                                                                                                                                                                                                                                             GOKSETPLSPPCADSATSEAAGQRPVHPASVPSVPSVQPSLLEDSPLVQALSGLHLSADR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LIKDHVLDYNQASRÞHRHMDYYGPSDLCPÞKVÞKSASSNCVFÞGSTHDESSÞSSÞSVSEG
                                                                                                                                                                                                                                                                                                                                                                                                                                     MLDALDISVVINLSMTCPKSVCIKEDKNEMRIPVNDSYQEKLSPYFPMAYEFLEKCRRAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGFAEFSRCFPGLCEGKS--TLVPTCISQPCL--PVANIGPTRILPNLYLGCQRDVLNKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GFKQFAQQYPQLCESSEGMTRLPQSLSQPCLSQPTGD-GITLITPNIYLGSQIDSLDET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               200
92
351
465
483
224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                           - KRNWTMDLGLPHRPKALGLPSRIGTSV-----AELPSPSTELSRLS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AΑ;
                                                                                                                                                                                                          FYSASAIYGGŞAŞYŞAYŞCŞQLFTCGDQVYSVRRRQKPSDRADŞRRŞWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               269
95
354
472
488
224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        66354 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14.6%;
                                                                                                                                                                       627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        77;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 497.5; DB 1;
Pred. No. 5.8e-23;
7; Mismatches 159;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      POLY-SER.
POLY-SER.
POLY-SER.
POLY-SER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PHOSPHOCYSTEINE SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROTEIN-TYROSINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    369E326F615D0529 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INTERMEDIATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels 157;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                        -----QGTSSGTVNVNG
                                                                                                                                                                                       -STPASASSSAASRC
                                                                                                                                                                                                                                   -SEPSFDFSSFES
                                                                                                                                                                                                                                                                               -ASSSREVILTLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             619;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YB)
       PYST1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                       529
                                                                                                                                                                                                             614
                                                                                                                                                                                                                                                         560
                                                                                                                                                                                                                                   483
                                                                                                                                                                                                                                                                                460
                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                  443
                                                                                                                                                                                                                                                                                                     500
                                                                                                                                                                                                                                                                                                                                                                                             389
                                                                                                                                                                                                                                                                                                                                                                                                                    337
                                                                                                                                                                                                                                                                                                                                                                                                                                          329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         157
```

institutions as long

removed

88 Usage

its content

18 for ה

ö

ý and

commercial

```
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Altschenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

RA Raha S.S., WocEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Pahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,

"Generation and initial analysis of more than 15,000 full-length

Thuman and mouse cDNA sequences.",

Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).

    -i- CATALYTIC ACTIVITY: Protein tyrosine
tyrosine + phosphate.
    -i- CATALYTIC ACTIVITY: A phosphoprotein

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Stewart A.E., Dowd S., Keyse S.M., McDonald N.Q.; "Crystal structure of the MAPK phosphatase Pyst1 catalytic domain implications for regulated activation."; Nat. Struct. Biol. 6:174-181(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. (ISOFORM 1), AN TISSUE=Colon, Kidney, Skin, and SMEDLINE=22388257; PubMed=12477932
between the the European
                  This SWISS-PROT entry is copyright. It is produbetween the Swiss Institute of Bioinformatics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nat. Struct. Biol. 6:1/4-141(1999).
-!- FUNCTION: Inactivates MAP kinases. Has a specificity for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Furukawa T., Yatsuoka T., Youssef E.M.,
Fukushige S., Soeda E., Hoshi M., Hayas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Groom L.A., Sneddon A.A., Alessi D.R., Dowd S., Keyr "Differential regulation of the MAP, SAP and RK/p38 a novel cytosolic dual-specificity phosphatase."; EMBO J. 15:3621-3632(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=99077745; PubMed=9858808;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. (ISOFORMS 1 AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=96312959; PubMed=8670865;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=99140299; PubMed=10048930;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 K-RAY CRYSTALLOGRAPHY (2.35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Genomic analysis of DUSP6, a in pancreatic cancer.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                            Name=2; Synonyms=DUSP6-ALT;
IsoId=016828-2; Sequence=VSP 005137;
ISOId=TY: Belongs to the protein-tyrosine phosphatase
Non-receptor class dual specificity subfamily.
SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                        phosphate.
SUBCELLULAR LOCATION:
ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                             Event-Alternative splicing; Named isoforms=2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tamily
                                                                                                                                                                                                                                                                 IsoId=Q16828-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cell Genet.
Swiss Institute
Bioinformatics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (ISOFORM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       82:156-159(1998).
                                                                                                                                                                                                                                                                                                                                                                                        Cytoplasmic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         <u>:</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ANGSTROMS) OF 204-347.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            dual specificity MAP kinase phosphatase,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AND VARIANT VAL-114.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Stomach;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       E.M., Abe T., Yokoyan
Hayashi Y., Sunamura
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2)
It is produced through a collaboration informatics and the EMBL outstation - te. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                   +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       phosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                   H(2)0 =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    , Yokoyama T.
Sunamura M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Keyse S.M.;
/p38 kinases
                                                                                                                                                                                                                                                                                                                                                                                                                                                   b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           +
                                                                                                                                                                                                                                                                                                                                                                                                                                                protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           H(2)0 =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kobari M.,
                                                                                                                                                                              family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ķ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ERK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             anc
```

```
$\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\f
Query Match
Best Local S
Matches 113
                                                                             TURN
SEQUENCE
                                                                                                                                  TURN
STRAND
HELIX
HELIX
TURN
TURN
STRAND
HELIX
TURN
TURN
TURN
TURN
HELIX
TURN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAND
TURN
STRAND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SMART; SM00195; DSPC; 1.
SMART; SM00450; RHOD; 1.
PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS00383; TYR_PHOSPHATASE 1; FALSE
PROSITE; PS50056; TYR_PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR_PHOSPHATASE DUAL; 1.
PROSITE; PS50054; TYR_PHOSPHATASE DUAL; 1.
Hydrolase; Polymorphism; Alternative splic:
DOMAIN 30 148
RHODANESE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACT_SITE
VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro;
InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL;
EMBL;
EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL;
EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   use by non-profit institutions as long modified and this statement is not remove entitles requires a license agreement (Stor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                         HELIX
TURN
STRAND
STRAND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MIM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       TURN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPC; 1.
SMART; SM00450; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pfam; PF00782; DSPC; 1.
Pfam; PF00581; Rhodanese;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Genew;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GO:0006470; P:protein amino acid dephosphorylation; TAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GO:0005737; C:cytoplasm; IDA.
GO:0005625; C:soluble fraction; TAS.
GO:0004725; F:protein serine/threonine phosphatase activity; IDA.
GO:0004725; F:protein tyrosine phosphatase activity; IDA.
GO:0000188; P:inactivation of MAPK; IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       602748;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1MKP; 22-JUL-99.
1HZM; 25-JAN-02
al Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BC003143; AAH03143.1;
BC003562; AAH03562.1;
BC005047; AAH05047.1;
BC037236; AAH37236.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AB013382; BAA34369.1;
AB013602; BAA31969.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AB013383; BAA31968.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AB013601; BAA31968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   X93920;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AB013600; BAA31968.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HGNC:3072; DUSP6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IPR000340; DS_phosphatase. IPR008343; MAPK_phosph. IPR001763; Rhodanese-like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IPR001763;
IPR000387;
  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAA63813.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              381
293
279
                                                                               42333 MW;
                  13.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYR_phosphatase
    63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     111111
                    Score 471.5;
Pred. No. 1.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PHOSPHOCYSTEINE INTERMEDIATE Missing (in isoform 2). 
MISSING (IN 150FORM 2). 
FTIG-VSP_005137.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /FTId=VAR_015113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROTEIN-TYROSINE PHOSPHATASE
                                                                               03BC12252CE73B26 CRC64;
    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           splicing; 3D-structure
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FALSE_NEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (See http://www.isb-sib.ch/announce/
                      .1e-21
                                      BB
                                      <u>'</u>!;
    Indels
                                      Length
                                          381;
    49;
    Gaps
    8
```

```
RP SEQUENCE FROM N.A.

RC TISSUB-Brain, Lung, and Testis;

RC TISSUB-Brain, Lung, and Testis;

RX MEDLINE-2238257; PubMed-12477932;

RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Hopkins R.F., Jordan H., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

RA Rosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
DUSA_HU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8 8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           유
                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.

MEDLINE=20065165; PubMed=10597297;
Theodosiou A., Smith A., Gillieron C., Arkinstall S., Ashworth A.;
"MKP5, a new member of the MAP kinase phosphatase family, which
selectively dephosphorylates stress-activated kinases.";
Oncogene 18:6981-6988(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tanoue T., Moriguchi T., Nishida E.; "Molecular cloning and characterization phosphatase, MKP-5.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. MEDLINE=99321929;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28-FBB-2003 (Rel. 41, Created)
28-FBB-2003 (Rel. 41, Last sequence update)
10-CCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 10 (EC 3.1.3.48) (EC 3.1.3.16)
(Mitogen-activated protein kinase phosphatase 5) (MAP kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DUSA_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                              Biol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19
                                                                                                                                                                                                                                                                                                                                                                                                                                              Chem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MKKSNİSPNENEMGQLLDFERTL---GLSSP 352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EKRPTISPNENFLGQLLDYEKKIKNQTGASGP 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SQNLSQFFPEAISFIDEÁRGKNCGVLVHCLAGISRSVTVTVÁYLMQKLNLSMNDÁYDIVK 324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CEKILPWLDKSVDFIEKAKASNGCVLVHCLAGISRSATIATAYIMKRMDMSLDEAYRFVK 275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SFPVBILPFLYLGCAKOSTNLDVLEEFGIKYILNVTPNLPNLFENAGEFKYKQIPISDHW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 --- PTRILFNLYLGCQRDVLNKELIQQNGIGYVLNASYTCPKP-DFIPESHFLRVPVNDSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ĆĖ--TNĹDGSĆSSŚSPPĹPÝLGLÁGLRISSDSSSDIESDLDRDPNSATDSDGSPLSNSQP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CEGKSTLVPTC-ISOPCLPVANIG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TRRČGTDTVVLYDESSSDWNENTGGESLLGLLLKKLKDEGCRAFYLEGGFSKFQAEFSLH 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DIDC-SQKVVVYDQSSQD-VASLSSDCFLTVLLGKLEKSFNSVHLLAGGFABFSRCFPGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ĹĔĽĠNĖRĽĽĽMĎCŘĖQEĽÝESSHÍESAĬŇVAI PGIMLŘŘĽÓKGNĽ PVRAĽFTRGEDRDRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELIQHSA-KHKV
                                                                                                                                                                                                                                                                                                                                                                                                                                     274:19949-19956(1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PubMed=10391943;
chi T., Nishida E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of a novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  dual
                                                                                                                                                                                                                                                                                                                                                                                                                                                             specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      77
```

```
밁
                                                                                                                             S
                                                                                                                                                                              뮍
                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                     뭐
                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R Genew; HGNC:3065; DUSP10.

R GO; GO:0005737; C:cytoplasm; TAS.
R GO; GO:0005737; C:cytoplasm; TAS.
R GO; GO:0005634; C:nucleus; TAS.
R GO; GO:0007254; F:protein phosphatase activity; TAS.
R GO; GO:0004721; F:protein amino acid dephosphorylation; TAS.
R GO; GO:0006470; F:protein amino acid dephosphorylation; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:000650; F:response to stress; TAS.
R GO; GO:00065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam; PF00782; DSPC; 1.

Pfam; PF00782; DSPC; 1.

Pfam; PF00781; Rhodanese; 1.

PRINTS; PR01764; MAPKPHPHTASE.

SWART; SM00195; DSPC; 1.

SWART; SM00195; DSPC; 1.

SWART; SM00195; RHODANESE 3; 1.

PROSITE; PS50206; RHODANESE 3; 1.

PROSITE; PS500383; TYR PHOSPHATASE 1; 1.

PROSITE; PS50054; TYR PHOSPHATASE 2; 1.

PROSITE; PS50054; TYR PHOSPHATASE DUAL; 1.

PROSITE; PS50054; TYR PHOSPHATASE DUAL; 1.

PROSITE; PS50054; TYR PHOSPHATASE DUAL; 1.

PROSITE; PS50054; TYR PHOSPHATASE DUAL; 1.

POMAIN 168 285

DOMAIN 364 453

PROTEIN-TYROS

PHOSPHOCYSTEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.,
"Generation and initial analysis of more than 15,000 full-length
human and mouse cDNA sequences.";
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
-I- FUNCTION: Involved in the inactivation of MAP kinases. Has a
specificity for the MAPKIJ/MAPKI3/MAPKI4 subfamily.
-I- CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)0 = prot
-I- CATALYTIC ACTIVITY: A phosphoprotein + H(2)0 = a protein +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         phosphate.
-i- SUBCELLULAR LOCATION: Cytoplasmic and nuclear.
-i- SIMILARITY: Belongs to the protein-tyrosine phosphatase
Non-receptor class dual specificity subfamily.
-i- SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; AB026436;
                             188
                                                                              293
                                                                                                                             140
                                                                                                                                                                              233
                                                                                                                                                                                                                                                                                173
                                                                                                                                                                                                                               85
                                                                                                                                                                                                                                                                                                                                                                                  107;
                                                                                                                                                                                                                                                                                                                                 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AB026436; BAA81668.1; -. AF179212; AAD51857.1; -. BC031405; AAH31405.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q16828;
                                                CREVGGGASAASSILÞQÞÍ--ÞTTÞDIENAELTÞÍLÞFLFLGNEQÞAQDLDTMQRLNÍGÝ
                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                II VYDENTNEPSRVMPSQPLHIVLESLKREGKEPLVLKGGLSSFKQNHENLCDNSLQLQE
                                                                                                                                                                              VVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHLLAGGFAEFSRCFPGLCEGK----
                                                                                                                                                                                                                                                    LLIDSRPFVEYNTSHILEAININGS-KLMKRRLQQDKVLITELIQ-HSAKHKVDIDGSQK 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 482
                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AΑ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1MKP
-YTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCVLV
                                                                              STLVPTCISOPCLP-VANIGPTRILPNLYLGCORDVLNKELIQONGIGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         52642 MW;
                                                                                                                                                                                                                                                                                                                                                                                               13.7%;
35.9%;
                                                                                                                                                                                                                                                                                                                                                                          65;
                                                                                                                                                                                                                                                                                                                                                                                    Score 469; DB 1;
Pred. No. 2.2e-21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RHODANESE.
PROTEIN-TYROSINE PHOSPHATASE.
PHOSPHOCYSTEINE INTERMEDIATE
SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                              A8CB74ABF9498CD4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                 96;
                                                                                                                                                                                                                                                                                                                                                                                                          Length 482;
                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TAS
                                                                                                                                                                                                                                                                                                                                                         30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (B)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  family.
                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein
                                                   350
                                                                                                                                                     292
                                                                                                                                                                                                   139
```

```
RESULT 7
DUSA_MOUSE
 ð
                                                                                                                                                                                                                                                                                                                                                                                             A Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
A Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
A Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
A Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
A Kuchl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
Kuchl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
Kuchl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
Kuchl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
Kuchl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
Kuchl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
A Sakai K., Okido T., Frunno M., Aono H., Baldarelli R., Bareh G.,
Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
A Blake J., Boffelli D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
A Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
A Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
A Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
A Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
Suzuki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wilming L.,
A Havashiraki Y. A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
                                                       between
the Euro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q9ESSO; Q9CZY9;
10-OCT-2003 (Rel. 42, Created)
10-OCT-2003 (Rel. 42, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
10-OCT-2003 (Rel. 42, Last annotation update)
10-OCT-2003 (Rel. 42, Last annotation update)
10-OCT-2003 (Rel. 42, Last sequence 10 (EC 3.1.3.
(Mitogen-activated protein kinase phosphatase 5) (MKP-5).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN=C57BL/6J; TISSUE=Embryo; MEDLINE=21085660; PubMed=11217851;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Expression and comparative DUSP10/Dusp10."; Cytogenet. Cell Genet. 90:71
                                                                                                                                                                                                                                                                                                                           Nature 409:685-690(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=20515587; PubMed=11060451;
Masuda K., Shima H., Kikuchi K., Watanabe Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                 "Functional annotation of a full-length mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN=C57BL/6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DUSP10 OR MKP5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DUSA_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                       Hayashizaki
                                                                                                                               SIMILARITY: Belongs to the protei Non-receptor class dual specifici SIMILARITY: Contains 1 rhodanese
                                                                                                                                                                                                                           tyrosine + phosphate.
CATALYTIC ACTIVITY: F
                               s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way
                                                                                                                                                                                       phosphate.
SUBCELLULAR LOCATION:
                                                                                                                                                                                                                                                                 similarity).
CATALYTIC ACTIVITY: Protein
                                                                                                                                                                                                                                                                                                           specificity for the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             351
                 non-profit and this st
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HCQAGVSRSATIVIAYLMKHTRWTWTDAYKFVKGKRPIISPNLNFMGQLLEFEEDLNN 464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                   statement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                90:71-74 (2000)
                                                                                                                                                                                                                                 ⊳
                                                                                                                                                                                                                                                                                                         in the inactivation of MAP kinases. HaumapK11/MAPK12/MAPK13/MAPK14 subfamily
                                                                                                                                                                                           Cytoplasmic and nuclear (By similarity)
                                                                                                                                                                                                                               phosphoprotein
                                                                                                                                                 the protein-tyrosine ph
specificity subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      chromosomal
                   is not removed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                     tyrosine
                                                                                                                                     domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mapping
                                                                                                                                                                                                                                 +
as its .

ad. Usage by //www.i
                                                                                                                                                                                                                                                                     phosphate
http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                 H(2)0 =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matsuda
                                                                                                                                                                                                                                                                                                                                                                   CDNA
                                                                                                                                                                       phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of MKP-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (MAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .48)
                                                                                                                                                                                                                                 Ø
                                                                                                                                                                                                                                                                     +
                                                                                                                                                                                                                                                                                                                                                                   collection.";
                                                                                                                                                                                                                                                                       H(2)0 =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0<u>B</u>
                   and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3.1.3.16)
                   for commercial
                                                                                                                                                                                                                                                                     protein
                                                                                                                                                                                                                                                                                                           ξBy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               406
```

```
RRC OCC GREET BE
                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                  뭐
                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00782; DSPc; 1.

Pfam; PF00782; DSPc; 1.

Pfam; PF00781; Rhodanese; 1.

PRINTS; PR01764; MAPKPHPHTASE.

SMART; SM00195; DSPc; 1.

SMART; SM00195; DSPc; 1.

SMART; SM00195; DSPc; 1.

PROSITE; PS50026; RHODANESE 3; 1.

PROSITE; PS500383; TYR_PHOSPHATASE_2; 1.

PROSITE; PS50054; TYR_PHOSPHATASE_DUAL; 1.

PROSITE; PS50054; TYR_PHOSPHATASE_DUAL; 1.

Hydrolase; Nuclear protein.

DOMAIN 386 456 PROTEIN-TYROS

DOMAIN 386 456 PROTEIN-TYROS

DOMAIN 386 456 PROTEIN-TYROS

DOMAIN 386 456 PROTEIN-TYROS

DOMAIN 386 456 PROTEIN-TYROS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CONFLICT
CONFLICT
CONFLICT
SEQUENCE
                                                                                                                      Q9DBB1; Q9D7L4;
28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 42, Last annotation update)
10-OCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 6 (EC 3.1.3.
(Mitogen-activated protein kinase phosphatase 3)
                                                                                                                                                                                                                MOUSE
SEQUENCE FROM N.A.
STRAIN=C57BL/6J; TISSUE=Liver, and
MEDLINE=21085660; PubMed=11217851;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HSSP;
                                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                    Mus musculus (Mouse)
                                                                                                             phosphatase 3) (MKP-3).
                                                                                                                                                                                                   DUS6_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR000340; DS_phosphatase
InterPro; IPR008343; MAPK_phosph
InterPro; IPR001763; Rhodanese-like
                                              NCBI_TaxID=10090
                                                                                                 DUSP6 OR MKP3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro;
                                                                                                                                                                                                                            œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            send an email to license@isb-sib.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MGI:1927070;
                                                                                                                                                                                                                                                                                                                352
                                                                                                                                                                                                                                                                                                                                         188
                                                                                                                                                                                                                                                                                                                                                                                         140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    174
                                                                                                                                                                                                                                                                                      243
                                                                                                                                                                                                                                                                                                                                                                  294
                                                                                                                                                                                                                                                                                                                                                                                                                 234
                                                                                                                                                                                                                                                                408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AB037908; BAB17680.1;
AK011995; BAB27966.1;
Q16828; IMKP.
                                                                                                                                                                                                                                                                                                                                                                                                                                          85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VIIDCRPFMEYNKSHIQGAVHINCADKISRRRLQQGKITVLDLISCREGKDSFKRIFSKE
                                                                                                                                                                                                                                                                            | HCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                          VVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHLLAGGFAEFSRCFPGLCEGK-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LLIDSRPFVEYNTSHILEAININCS-KLMKRRLQQDKVLITELIQ-HSAKHKVDIDCSQK
                                                                                                                                                                                                                                                               VINVTTHLPLYHYEKGLF--
                                                                                                                                                                                                                                                                                                                                                                  CREVGGGASAASSMLPQ-
                                                                                                                                                                                                                                                                                                                                                                                                                  IIVYDENTNEPSRVTPSQPLHIVLESLKREGKEPLVLKGGLSSFKONHGNLCDNSLQLQE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IPR000387;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                48
113
386
483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ą.
                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Dusp10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   48 A
113 P
386 R
52530 MW;
                                                          Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                         YTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCVLV
                                                                                                                                                                                                                                                                                                                                                                                       -SILVPICISOPCLP-VANIGETRILPNLYLGCORDVLNKELIQONGIGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              35.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             13.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYR_phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    67;
                                                                                                                                                                                                                                                                                                                                                               -SVPTTPDIENAELTPILPFLFLGNEQDAQDLDTMQRLNIGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIMILARITY)
A -> T (IN I
P -> S (IN I
R -> Q (IN I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 468; DB 1;
Pred. No. 2.5e-21;
7; Mismatches 95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROTEIN-TYROSINE PHOSPHATASE PHOSPHOCYSTEINE INTERMEDIATE
                                                           Craniata; Veri
Sciurognathi;
                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                -NYKRLPATDSNKQNLRRYFEEAFEFIEEAHQCGKGLLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3551562355B46F89
             Tongue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .
Ըհ)
.
                                                                                                                                                                                                    381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REF.
                                                                           Vertebrata;
                                                                                                                                                                                                    B
                                                               Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CRC64;
                                                                                                                           .48)
(MAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                               Euteleostomi;
; Murinae; Mus
                                                                                                                           (EC 3.1.3.16)
kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                  407
                                                                                                                                                                                                                                                                                                                                          242
                                                                                                                                                                                                                                                                                                                                                                   351
                                                                                                                                                                                                                                                                                                                                                                                            187
                                                                                                                                                                                                                                                                                                                                                                                                                   293
                                                                                                                                                                                                                                                                                                                                                                                                                                            139
```

```
RX MEDLINE=22388257; PubMed=12477932;

RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

RA Klausner R.D., Collins F.S., Wagner L.H., Shermen C.M., Schuler G.D.,

RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Bistchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Babak S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

RA Raha S.S., Morley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Pahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

RA Pahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

RA Blakesley R.W., Touchman J.W., Schmutz J., Myers R.M.,

RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,

RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,

RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;

"Generation and initial analysis of more than 15,000 full-length

numan and mouse cDNA sequences.",

Proc. Natl. Acad. Sci. U.S.A. 99:16899-16993 (2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
A Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
A Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
A Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
A Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
A Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
A Kadota K., Matsud Y., Nikaido I., Pesole G., Quackenbush J.,
A Kuehl P., Lewis S., Matsud Y., Nikaido I., Pesole G., Quackenbush J.,
A Kuehl P., Lewis S., Matsud Y., Nikaido I., Pesole G., Quackenbush J.,
A Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
A Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
A Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
A Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
A Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
A Blake J., Boffelli D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
A Blake J., Bing B., Ringwald M., Rodriguez I., Sakamoto N.,
A Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
A Lyons P., Marchionni L., Mashima J., Mazazarelli J., Mombaerts P.,
A Mordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
A Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
A Mynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
A Hayashizaki Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kawai J., ...
~~kawa T., Hara.
~ . Izawa M
                                                                                                                                                                                                                                       --
                                                                                                                                                                                                                                                                                                                          ÷
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nature
[2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Functional annotation of a Nature 409:685-690(2001).
SIMILARITY: Belongs to the protein-tyrosine ph
Non-receptor class dual specificity subfamily.
SIMILARITY: Contains 1 rhodanese domain.
                                                                     phosphate.
SUBCELULAR LOCATION: Cytoplasmic (By similarity)
SIMILARITY: Belongs to the protein-tyrosine phosp
                                                                                                                                                                                                                                                                  family (By similarity)
CATALYTIC ACTIVITY: Protein tyrosine phosphate +
tyrosine + phosphate.
                                                                                                                                                                                                           tyrosine + phosphate.
CATALYTIC ACTIVITY: A phosphoprotein + H(2)0 = a
                                                                                                                                                                                                                                                                                                                                                                                          FUNCTION: Inactivates MAP kinases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Shinagawa A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Shibata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        full-length mouse cDNA collection.";
                                                                                                                                                                                                                                                                                                                                                                                      99:16899-16903(2002).
kinases. Has a specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 χ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Yoshino M.,
                                                                                   phosphatase family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Itoh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gariboldi M.,
iya M., Lee N.H.,
Mombaerts P.,
                                                                                                                                                                                                               protein
                                                                                                                                                                                                                                                                                                   H(2)0 = protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .
.
                                                                                                                                                                                                                                                                                                                                                                                          for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ishii Y.,
Fukuda S.,
amanaka I.,
Saito R.,
                                                                                                                                                                                                                                                                                                                                                                                          the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      K. -F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ۲
```

Ween the Swiss Institute. Increase European Bioinformatics Institute. Increase European Bioinformatics Institutions as long as her non-profit institutions as long as SWISS-PROT entry is copyright. It is produced through sen the Swiss Institute of Bioinformatics and the EW There are no rest restrictions EMBL outstation a collaboration 0 10 10

This use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch). the

```
MGD; MGI:1914853; Dusp6.
InterPro; IPR000340; DS_phosphatase.
InterPro; IPR008343; MAPK_phosph.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR000387; TYR_phosphatase.
                            EMBL; AK005062; BAB23786.1; EMBL; AK009131; BAB26093.1; EMBL; BC003869; AAH03869.1;
   InterPro; IPR000387;
Pfam; PF00782; DSPc;
                         Q16828; 1MKP
MAPKPHPHTASE
                             2.2.2
```

```
RESULT 9
                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                      뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local :
                                                                    STRAIN-Sprague-Dawley; TISSUE-Neuron; MEDLINE-96224012; PubMed-8626780; Muda M., Boschert U., Dickinson R., M. Camps M., Schlegel W., Arkinstall S.; "MKP-3, a novel cytosolic protein-tyrr exemplifies a new class of mitogen-act
                                                                                                                                                                                                                                         DUS6_RAT STANDARD; PRT; 381 AA.

064346;
01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
10-OCT-2003 (Rel. 42, Last annotation update)
10-Bual specificity protein phosphatase 6 (EC 3.1.3.48) (EC 3.1.3.16)

(Mitogen-activated protein kinase phosphatase 3) (MAP kinase
SEQUENCE FROM N.A. MEDLINE=96216487; Mourey R.J., Vega
                                                 phosphatase.";
J. Biol. Chem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PROSITE; PS50206; F
PROSITE; PS00383; 7
PROSITE; PS50056; 7
PROSITE; PS50054; 7
PROSITE; PS50054; 7
Hydrolase.
                                                                                                                                                                                                                         phosphatase 3
DUSP6 OR MKP3
                                                                                                                                                                                  Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
ACT_SITE
                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                        NCBI_TaxID=10116;
                                                                                                                                                                                                            Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SMART; SM00195;
SMART; SM00450;
                                                                                                                                                                                                                                                                                                                                                                                      325
                                                                                                                                                                                                                                                                                                                                                                                                                                      265
                                                                                                                                                                                                                                                                                                                                                                                                                                                            216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  112;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                    MKKSNISPNFNFMGQLLDFERTL----GLSSP
                                                                                                                                                                                                                                                                                                                                                                                                           EKRPTISPNFNFLGQLLDYEKKIKNQTGASGP 307
                                                                                                                                                                                                                                                                                                                                                                                                                                               CEXILPWLDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SFPVEILPFLYLGCAKDSTNLDVLEEFGIKYILNVTPNLPNLFENAGEFKYKQIPISDHW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   --PTRILPNLYLGCQRDVLNKELIQQNGIGYVLNASYTCPKP-DFIPESHFLRVPVNDSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TRRCGTDTVVLYDENSSDWNENTGGESVLGLLLKKLKDEGCRAFYLEGGFSKFQAEFALH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LESGTEKVLLIDSRÞFVEYNTSHILEAININCSKLMKRRLQQDKVLITELIQH-SAKHKV
                                                                                                                                                                                                                                                                                                                                                                                                                                    SQNLSQFFPEAISFIDEARGKNCGVLVHCLAGISRSVTVTVAYLMQKLNLSMNDAYDIVK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CE--TNLDGSCSSSSPPLPVLGLGGLRISSDSSSDIESDLDRDPNSATDSDGSPLSNSQP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CEGKSTLVPTC-ISOPCLPVANIG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DIDC-SQKVVVYDQSSQD-VASLSSDCFLTVLLGKLEKSFNSVHLLAGGFAEFSRCFPGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LELGNERLLLMDCRPQELYESSHIESAINVAIPGIMLRRLQKGNLPVRALFTRCEDRDRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   381 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30
206
293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22
34
                                                  271:4319-4326(1996)
                                                                                                                                                                                                                                     (MKP-3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DSPc;
RHOD;
  O
            PubMed=8631996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RHODANESE 3; 1.
TYR_PHOSPHATASE_1; FAI
TYR_PHOSPHATASE_2; 1.
TYR_PHOSPHATASE_DUAL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 148
381
293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   42407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22
34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13.6%;
33.7%;
  Campbell
                                                                                    protein-tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   M.
                                                                      protein-tyrosine phosphatase
mitogen-activated protein ki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 466.5; DB 1
Pred. No. 2.2e-21;
4; Mismatches 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY).
W -> G (IN REF. 1; BAB26093)
L -> F (IN REF. 1; BAB26093);
7EALFB154F4AD2DA CRC64;
                                                                                                                                                                                    Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RHODANESE
PROTEIN-TYROSINE
PHOSPHOCYSTEINE I
J.S.,
                                                                                                           Martinou J.C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FALSE
 Wenderoth M.P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INTERMEDIATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BAB26093).
CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                            Martinou
                                                                       kinase
                                                                                                                                                                                    Murinae; Rattus.
Hauschka
                                                                                                          Ι.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (BY
 ß
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
 ė
                                                                                                                                                                                                                                                                                                                                                                                                                                    324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                          275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 86
```

```
ঠ
                                                                                                                                                                                                                              밁
                            ঠ
                                                                       밁
                                                                                                         ş
                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPG; 1.
SMART; SM00450; RHOD; 1.
SMART; SM00450; RHOD; 1.
PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS500383; TYR PHOSPHATASE 1; FALSE NEG PROSITE; PS50056; TYR PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR_PHOSPHATASE_DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pfam; PF00782; DSPc; 1.
Pfam; PF00581; Rhodanese; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; X94185; CAA63895.1; -.
EMBL; U42627; AAB06202.1; -.
HSSP; Q16828; IMKP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hydrolase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Krebs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      phosphate.
SUBCELLULAR LOCATION: Cytoplasmic.
SUBCELLULAR LOCATION: Cytoplasmic.
SIMILARITY: Belongs to the protein-tyrosine phosphatase
Non-receptor class dual specificity subfamily.
SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                147
                                                                                                                                                                                                                                                                                                           87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E.G., Dixon J.E.;
                                                                                                                                                                                                                                                                                                                                                                                                                           19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                       SQNLSQFFPEAISFIDEARGKNCGVLVHCLAGISRSVTVTVAYLMQKLNLSMNDAYDIVK
                                                                                                                                                                       --PTRILPNLYLGCQRDVLNKELIQQNGIGYVLNASYTCPKP-DFIPESHFLRVPVNDSF
                                                                                                                                                                                                                                                                  CEGKSTLVPTC-ISQPCLPVANIG------
                                                                                                                                                                                                                                                                                                   TRRCGTDTVVLYDENSSDWNENTGGESVLGLLLKKLKDEGCRAFYLEGGFSKFQAEFALH 146
                                                                                                                                                                                                                                                                                                                                                DIDC-SQKVVVYDQSSQD-VASLSSDCFLTVLLGKLEKSFNSVHLLAGGFAEFSRCFPGL
                                                                                                                                                                                                                                                                                                                                                                                                                           LESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELIQH-SAKHKV
                                  EKRPTISPNFNFLGQLLDYEKKIKNQTGASGP
                                                                                                            CEKILPWLDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVK
                                                                                                                                                    SFPVEILPFLYLGCAKDSTNLDVLEEFGIKYILNVTPNLPNLFENAGEFKYKQIPISDHW
                                                                                                                                                                                                                                CE--TNLDGSCSSSSPPLPVLGLGGLRISSDSSSDIESDLDRDPNSATDSDGSPLSNSQP
                                                                                                                                                                                                                                                                                                                                                                                       LELGNEQLILMDCRPQELYESSHTESATNVAIPGIMLRRLQKGNLPVRALFTRCEDRDRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IPR000340; DS_phosphatase.
IPR008343; MAPK_phosph.
IPR001763; Rhodanese-like.
IPR000387; TYR_phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30
206
293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        148
381
293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 42318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Æ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 465.5; DB 1
Pred. No. 2.6e-21;
4; Mismatches 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RHODANESE.
PROTEIN-TYROSINE PHOSPHATASE
PHOSPHOCYSTEINE INTERMEDIATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C511E00CB68F2888
GLSSP
                                  307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  107;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 381;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        YB)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      collaboration
                                                                           324
                                                                                                                  275
                                                                                                                                                                                         215
                                                                                                                                                                                                                                204
                                                                                                                                                                                                                                                                                                                                                  135
                                                                                                                                                                                                                                                                                                                                                                                         86
                                                                                                                                                    264
                                                                                                                                                                                                                                                                    158
```

밁 δ 밁 ঠ

ક

ARRESE SERVICES OF

```
DUSAHUMAN

DUSAHUMAN

DUSAHUMAN

DUSAH H

AC Q13115

DO 01-NOV

DT 01-NOV

DT 01-NOV

DT 01-NOV

DT 01-NOV

DT 01-NOV

DT 01-NOV

DT 01-NOV

DT 01-NOV

DT 01-NOV

DT 01-NOV

DT 01-NOV

DT 01-NOV

DT 01-NOV

DT 01-NOV

DT 01-NOV

DT 01-NOV

C MARMMAIL

OX NCBIT

RN MEDLIN

RA MEDLIN

RA Chu Y.

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT WASP-2

RT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RA Strausberg R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D., RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D., RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K., RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K., RA Altschul S.F., Zeeberg B.S., Buetow K.H., Schaefer C.F., Bhat N.K., RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F., RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E., RA Stapleton M., Ugdin T.B., Toshiyuki S., Carrinci P., Prange C., RA Stapleton M., Ugdin T.B., Toshiyuki S., Carrinci P., Prange C., RA Robards S., Morley K.C., Hale S., Garcia A.M., Gay L.J., Mullahy S.J., RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., RA Pahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A., RA Mhiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C., RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E., RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E., RA Rodriguez CDNA sequences ""
"Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences"
"In human and mouse cDNA sequences ""
Thuman and mouse cDNA sequences ""
Thuman and mouse cDNA sequences ""
Thuman and mouse cDNA sequences ""
Thuman and mouse cDNA sequences ""
Thuman and mouse cDNA sequences ""
Thuman and mouse cDNA sequences ""
Thuman and mouse cDNA sequences ""
Thuman and mouse cDNA sequences ""
Thuman and mouse cDNA sequences ""
Thuman and mouse cDNA sequences ""
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DUS4_HUMAN S
Q13115; Q13524;
01-NOV-1997 (Rel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

MEDLINE=96198119; PubMed=8626452;

Chu Y., Solski P.A., Khosravi-Far R., Der C.J., Kelly K.;

Chu Y., Solski P.A., Khosravi-Far R., Der C.J., Kelly K.;

chu Y., Solski P.A., Khosravi-Far R., Der C.J., Kelly K.;

chu Y., Solski P.A., Khosravi-Far R., Der C.J., Kelly K.;

chu Y., Solski P.A., Khosravi-Far R., Der C.J., Kelly K.;

chu Y., Solski P.A., Khosravi-Far R., Der C.J., Kelly K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10-OCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 4 (EC 3.1.3.48)
(Mitogen-activated protein kinase phosphatase-2) (MA)
phosphatase-2) (MKP-2) (Dual specificity protein pho
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation updat
This SWISS-PROT entry is copyright. It is produced through a collaboratic between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on it use by non-profit institutions as long as its content is in no was
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE=Skin, and Uterus;
MEDLINE=22388257; PubMed=12477932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                         -!- CATALYTIC ACTIVITY: A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein kinase."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HVH2, which selectively
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
MEDLINE=95221370; PubMed=7535768;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DUSP4 OR MKP2 OR VH2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Isolation and characterization of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Biol. Chem. 270:7197-7203(1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Biol.
                                                                                                                                                            phosphate.
SUBCELIUIAR LOCATION: Nuclear.
SIMILARITY: Belongs to the protein-tyrosine phosphatase family.
Non-receptor class dual specificity subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                            CATALYTIC ACTIVITY: Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ERK1 and ERK2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              K.-L., Butch E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Chem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  271:6497-6501(1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                 A phosphoprotein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           dephosphorylates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                    tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             O)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           novel dual specific phosphatase, ates the mitogen-activated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   394
                                                                                                                                                                                                                                                                                                                                                             + H(2)0
                                                                                                                                                                                                                                                                                                                                                                                                                                phosphate + H(2)O = protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₹
                                                                                                                                                                                                                                                                                                                                                                 U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (MAP
                                                                                                                                                                                                                                                                                                                                                                 ςυ.
                                                                                                                                                                                                                                                                                                                                                                 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (EC 3.1.3.16)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               kinase
                                                                                 a collaboration -
MBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  hVH2)
```

Usage

```
RESULT 11
DUS4_CHICK
ID DUS4_CHICK
AC Q9PW71;
                                                                                            S
                                                                                                                       밁
                                                                                                                                         Ś
                                                                                                                                                                        밁
                                                                                                                                                                                       Ś
                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MIM; 602747; -.
GO; GO:0005634; C:nucleus; TAS.
GO; GO:0008330; F:protein tyrosine/threonine phosphatase acti.
GO; GO:0000165; P:MAPKKK cascade; TAS.
GO; GO:0006470; P:protein amino acid dephosphorylation; TAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE; PS50206; RHÓDANESE 3; 1.
PROSITE; PS00383; TYR PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR PHOSPHATASE DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PR01764; MAPKPHPHTASE. SMART; SM00195; DSPC; 1. SMART; SM00450; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF00782; DSPc; 1.
Pfam; PF00581; Rhodanese;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HSSP; Q16828; 1MKP.
Genew; HGNC:3070; DUSP4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; U21108; AAA85119.1; ...
EMBL; U48807; AAC50452.1; ...
EMBL; BC002671; AAH02671.1; ...
EMBL; BC014565; AAH14565.1; ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        modified and this statement is not removed. entities requires a license agreement (See lor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         iydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR000340;
InterPro; IPR008343;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro; IPR001763; InterPro; IPR000387;
                                                                          374
                                                                                                                        336
                                                                                                                                               300
                                                                                                                                                                        276
                                                                                                                                                                                              240
                                                                                                                                                                                                                      217
                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                       157
                                                                                                                                                                                                                                                                                              135
                                                                                                                                                                                                                                                                                                                                                                                                                   120;
                                                                                                                                                                                                                                                                                                                     97
                                                                                                                                                                                                                                                                                                                                            77
                                                                                                                                                                                                                                                                                                                                                                     39
                                                                                                                                                                                                                                                                                                                                                                                            19
                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                             VPSVPSVQPSLLEDSPLVQALS
                                                                                                                      ATSCAAEAAS----
                                                                                                                                      NQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPAS
                                                                                                                                                                                                                LDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFMEAIEYIDAVKDCRGR
                                                                                                                                                                                                                                                                                                                                                                             LESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELI--QHSAKHK 76
                                                                                                                                                                VLVHCQAGISRSATICLAYLMMKKRVRLEEAFEFVKQRRSIISPNFSFMGQLLQFESQVL
                                                                                                                                                                                   VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIK
                                                                                                                                                                                                                                       IQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC
                                                                                                                                                                                                                                                               FCSKTKALAAIPPPVPPSATEPLDLGCSSCGTPLHDQGGPVEILPFLYLGSAYHAARRDM
                                                                                                                                                                                                                                                                                     LCEGKSTL-----VPTCISQP------C-LPVANI-GPTRILPNLYLGCQRDVLNKEL
                                                                                                                                                                                                                                                                                                               LRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSEYPE
                                                                                                                                                                                                                                                                                                                                      VDIDCSQKVVVVADQSSQDVASLSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRCFPG
                                                                                                                                                                                                                                                                                                                                                              LPSG-GKCLLLDCRPFLAHSAGYILGSVNVRCNTIVRRR-AKGSVSLEQILPAEEEVRAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 111
394 /
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nuclear
                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    159
394
280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 111
42953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DS_phosphatase.
MAPK_phosph.
Rhodanese-like.
                                                                                                                                                                                                                                                                                                                                                                                                                            13.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYR_phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MW.
                                                                                                                                                                                                                                                                                                                                                                                                                 75;
                                                                                                                      PSGPL---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PHOSPHOCYSTEINE IN
SIMILARITY).
R -> G (IN REF. 2)
                                                                                                                                                                                                                                                                                                                                                                                                                            Score 445; DB 1;
Pred. No. 4.8e-20
           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RHODANESE.
PROTEIN-TYROSINE PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                0603971759B6952E
                                                                                             381
                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
          375
                                                                                                                      -RERGKTPATP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  noved. Usage by and for commercial (See http://www.isb-sib.ch/announce/
          A
                                                                                                                                                                                                                                                                                                                                                                                                               141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INTERMEDIATE
                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                   TSQFVFSFPV-SVG
                                                                                                                                                                                                                                                                                                                                                                                                               46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  YB)
                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TAS.
                                                                                                                                                                                          299
                                                                                                                                                                                                                                                               216
                                                                                                                                                                                                                 275
                                                                                                                                                                                                                                                                                       179
                                                                                                                                                                                                                                                                                                                156
                                                                                                                                                                                                                                                                                                                                                               96
                                                                                                                                                                                                                                                                                                                                                                                                               14
```

```
Ş
                                                                                                                                                                                                                                                                               밁
                                                                                                 밁
                                                                                                                                  Ş
                                                                                                                                                                                  Query Match
Best Local Sim
Matches 123;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2003 (Rel. 42, Last sequence update)
10-OCT-2003 (Rel. 42, Last sanotation update)
Dual specificity protein phosphatase 4 (EC 3.1.3.48)
Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activated protein kinase phosphatase-2) (Mitogen-activat
                                                                                                                                                                                                                                                                                                                                                                       Hydrolase;
                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                               PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE;
PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pfam; PF00782; DSPc; 1.
Pfam; PF00581; Rhodanese; 1.
PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPc; 1.
SMART; SM00450; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  between the Swiss Institute of Bioinformatics and the EMBL outstation -
the European Bioinformatics Institute. There are no restrictions on its
use by non-profit institutions as long as its content is in no way
modified and this statement is not removed. Usage by and for commercial
entities requires a license agreement (See http://www.isb-sib.ch/announce/
or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                     ACT_SITE
                                                                                                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR001763;
InterPro; IPR000387;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR000340; DS
InterPro; IPR008343; MAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and ERK2 (By similarity).

-!- CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)0 = tyrosine + phosphate.

-!- CATALYTIC ACTIVITY: A phosphoprotein + H(2)0 = a protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ru S.-L., Waha A., Vogt P.K.;
"Identification and characterization of genes upregulated transformed by v-Jun.";
Oncogene 19:357-3545 (2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN=White leghorn;
MEDLINE=20379359; PubMed=10918612;
Fu S.-L., Waha A., Vogt P.K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               phosphate.
SUBCELULAR LOCATION: Nuclear (By similarity).
SUBLIARITY: Belongs to the protein-tyrosine ph
Non-receptor class dual specificity subfamily.
SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FUNCTION: Regulates mitogenic signal transduction k dephosphorylating both Thr and Tyr residues on MAP
       66
                                                    64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AF167296; AAI
Q16828; IMKP
                                                                                                                                            4
                                      LITELI--QHSAKHKVDIDCSQKVVVYpQSSQDVASLSSDCFLTVLLGKLEKSF--NSVH 119
                                                                                                                                                                                                            Similarity
SLEQILPAEGEVRARLRAGLYTAVVLYDERSPRAEALRDDSTVALVLRALRRDMARADIR
                                                                                                                                                                                                                                                                                                                                                                                                        PS50206; RHODANESE 3; 1.
PS00383; TYR PHOSPHATASE 1; 1.
PS50056; TYR PHOSPHATASE 2; 1.
PS50054; TYR PHOSPHATASE DUAL;
                                                                                                                           EMIGTQIVTERLYALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKV
                                                                                                                                                                                                                                                                             375
                                                                                                                                                                                                                                                                                                                                                                                          Nuclear
                                                                                                                                                                                                                                                                                                                       25
178
261
                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                             AA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAD46656.1;
                                                                                     RRLVGREEASGGRCLLLDCRPFLAHSAGHIRGALNVRCNTIVRRR-AKGAV
                                                                                                                                                                                                                                                                                                                     143
375
261
                                                                                                                                                                                                                                                                             41052
                                                                                                                                                                                                       13.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DS_phosphatase.
MAPK_phosph.
Rhodanese-like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYR_phosphatase
                                                                                                                                                                                                                                                                             MW;
                                                                                                                                                                                  73;
                                                                                                                                                                                                     Score 444; DB 1;
Pred. No. 5.1e-20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŀ
                                                                                                                                                                                                                                                                                                  SIMILARITY)
                                                                                                                                                                                                                                                                                                                PROTEIN-TYROSINE PHOSPHATASE. PHOSPHOCYSTEINE INTERMEDIATE
                                                                                                                                                                                                                                                                                                                                                                  RHODANESE
                                                                                                                                                                                                                                                                          179290D0C2BEEEF1
                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     y - - - phosphatase family. subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Vertebrata; Euteleostomi;
mes; Phasianidae; Phasianinae;
                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                        CRC64;
                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .48) (
(MAP
                                                                                                                                                                                                                             375;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (EC 3.1.3.16)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               kinases
                                                                                                                                                                                                                                                                                                                     (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       in
                                                                                                                                                                                48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ERKI
                                                                                                                                                                             Gaps
                                                                                                                                  63
                                                                                        65
```

```
PRESULT 12

DUS4—NAT

AC 06276

AC 06276

AC 06276

AC 06276

DT 15-UI

DT 15-UI

DT 10-OC

DT 10-OC

DT 10-OC

EN A THE

CC 11- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

CC -1- CC

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DUS4_RAT
Q62767;
15-JUL-1999
15-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "A novel mitogen-activated protein kinase phosphatase. expression, and regulation.";
J. Biol. Chem. 270:14587-14596(1995).
-I- FUNCTION: Regulates mitogenic signal transduction b dephosphorylating both Thr and Tyr residues on MAP and ERK2 (By similarity).
-I- CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(tyrosine + phosphate.
-I- CATALYTIC ACTIVITY: A phosphoprotein + H(2)0 = a pr
                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=Pheochromocytoma;
MEDLINE=95301550; PubMed=7782322;
Misra-Press A., Rim C.S., Yao H., Roberson M.S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15-JUL-1999 (Rel. 38, Last sequence update)
10-CCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 4 (EC 3.1.3.48) (EC 3.1.3.16)
(Mitogen-activated protein kinase phosphatase-2) (MAP kinase phosphatase-2) (MKP-2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                or send
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DUSP4 OR MKP2
                                                                                                                                                                                                                                                                                                            phosphate.
SUBCELLULAR LOCATION: Nuclear (By similarity).
TISSUE SPECIFICITY: Expressed at moderate levels in nearly all tissues and cells including brain, spleen, and testes with the higher expression in the heart and lung and lower expression in skeletal muscle and kidney. Undetectable in liver. Expressed in many areas of the brain with very strong expression in the hippocampus, piriform cortex, and the suprachiasmatic nucleus. INDUCTION: By mitogens and by stress.
SIMILARITY: Belongs to the protein-tyrosine phosphatase family. Non-receptor class dual specificity subfamily.
SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         342 TSQFVFSFPV-SVGVHATPSSLPYL--HSPITTSPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      286 NFLGQLLDYEKKIKNQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
   U23438; AAC52493.1;
                                                                   an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TSEAAGQRPVHPASVPSVPSVQPSLLEDSPLVQALS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRFTISPNF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SFMGQLLQFESQVLATSCAVEAAS------PSGTLRERGKATSTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AIEYIDSVKECCGRVLVHCQAGISRSATICLAYLMMKKRVKLEKAFEFVKQRRSIISPNF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LYLGSAYHAARRDMLDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LYLGCORDVLNKELIQONGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LLAGGYERFASEYPEFCAKTKTL--SSISPPSSAESLDLGFSSCGTPLHDQGGPVEILPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LLAGGFAEFSRCFPGLCEGKSTLVPTCISQP------C-LPVANI-GPTRILPN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (Rel. 38, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   phosphate + H(2)0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Stork P.J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       kinases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Structure,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ERK1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      302
```

```
RESULT 13
DUSI M
DUSI M
AC P28563
DT 01-DEC
DT 01-DEC
DT 15-MAR
DE DAA1 B
DE (MAP k
DE 3CH134
CM DUSP1
OS Mus mu
OC Eukary
OC Mammal
OX NCBI T
RN [1]
RP SEQUEN
RC STRAIN
RX MEDLIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                               DUSI MOUSE STANDARD; PRT; 367 AA.
P28563;
01-DEC-1992 (Rel. 24, Created)
01-DEC-1992 (Rel. 24, Last sequence update)
15-MAR-2004 (Rel. 43, Last annotation update)
16-MAR-2004 (Rel. 43, Last annotation update)
18-MAR-2004 (Rel. 43, Last annotation update)
18-MAR-2004 (Rel. 43, Last annotation update)
18-MAR-2004 (Rel. 43, Last annotation update)
18-MAR-2004 (Rel. 43, Last annotation update)
18-MAR-2004 (Rel. 43, Last annotation update)
18-MAR-2004 (Rel. 43, Last annotation update)
18-MAR-2004 (Rel. 24, Created)
18-MAR-2004 (Rel. 24, Created)
18-MAR-2004 (Rel. 24, Created)
18-MAR-2004 (Rel. 24, Created)
18-MAR-2004 (Rel. 24, Created)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update)
18-MAR-2004 (Rel. 24, Last sequence update
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRINTS; PR01764; MAPKPHPHTASE.

SMART; SM00195; DSPC; 1.

SMART; SM00450; RHOD; 1.

PROSITE; PS50206; RHODANESE 3; 1.

PROSITE; PS00383; TYR PHOSPHATASE 1; 1.

PROSITE; PS50056; TYR PHOSPHATASE 2; 1.

PROSITE; PS50054; TYR PHOSPHATASE DUAL;
                                                                                                                Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                          SEQUENCE FROM N.A. STRAIN=BALB/c;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
  MEDLINE=92158357;    PubMed=1741163;
                                                                                          NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hydrolase; Nuclear
DOMAIN 42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00782; DSPc; 1. Pfam; PF00581; Rhodanese; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro; IPR000340; DS phosphatase.
InterPro; IPR008343; MAPK_phosph.
InterPro; IPR001763; Rhodanese-like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR000387; TYR_phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ISSP; Q16828;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             118;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LGLLSGG--KCLLLDCRPFLAHSAGYIRGSVNVRCNTIVRRR-AKGSVSLEQILPAEEEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             V-SVGVHAAPSNLPYL--HSPITTSPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ASNGCYLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFYKEKRPTISPNENFLGQLLDY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RARLRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSE 154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VHPASVPSVPSVQPSLLEDSPLVQALS 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EKKIKNQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DCRGRVLVHCQAGISRSATICLAYLMMKKRVRLEEAFEFVKQRRSIISPNFSFMGQLLQF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ARRDMLDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFMEAIEYIDAVK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LNKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             YPEFCSKTKAL--AAIPPPVPPSTNESLDLGCSSCGTPLHDQGGPVEILPFLYLGSAYHA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FPGLCEGKSTLVPTCISQPCLPVANI------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ESQVLTTSCAAEAAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ă,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       r protein.
160
395
281
                                                                                                                                      Chordata; Craniata; Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         43187 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              71;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 439.5;
Pred. No. 1e-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RHODANESE.
PROTEIN-TYROSINE PHOSPHATASE
PHOSPHOCYSTEINE INTERMEDIATE
                                                                                                                  Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A90EFFD378A050FD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1e-19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              147;
                                                                                                                     Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                             Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GPTRILPNLYLGCQRDV
                                                                                                                     Murinae;
                                                                                                                                                                                                                                  (EC 3.1.3.16) phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             395;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              51;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TSQFVFSFP
                                                                                                                     Mue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    94
```

```
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Diatchenko L., Warusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Diatchenko L., Warusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Raha S.S., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Willalom D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
"Generation and initial analysis of more than 15,000 full-length
human and mouse cDNA sequences.",
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDIJINE-93360956; PubMed-8355678;
MEDIJINE-93360956; PubMed-8355678;
Noguchi T., Metz R., Chen L., Mattei M.-G., Carrasco D., Bravo R.;
Noguchi T., mapping, and expression of erp, a growth factor inducible gene encoding a nontransmembrane protein tyrosine phosphatase, and effect of ERP on cell growth.";
Mol. Cell. Biol. 13:5195-5205(1993).
                                                                                                                                                                                                                                                                                               This SWI
between
the Euro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "CDNA sequence of a growth factor-inducible immediate characterization of its encoded protein."; Oncogene 7:187-190(1992).
                                                                                               EMBL; X61940; CAA43944.1; -.
EMBL; S64851; AAB37882.1; -.
EMBL; BC006967; AAH06967.1; -
PIR; A54681; S24411.
HSSP; Q16828; IMKP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM
STRAIN=Czech
                                        InterPro;
InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sun H., Charles C.H., Lau L.F., Tonks N.K., "MKP-1 (3CH134), an immediate early gene product, specificity phosphatase that dephosphorylates MAP Cell 75:487-493(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=22388257;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CHARACTERIZATION.
MEDLINE=94037096; PubMed=8221888;
                                                                                                                                                                                                                    send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                           ween the Swiss institute. There are in European Bioinformatics Institution as long as its content by non-profit institutions as long as its content by non-profit institutions as long as its content by non-profit institutions as long as its content by non-profit institutions as long as its content by non-profit institute.
                                                                                                                                                                                                                                                                                                                                                                        phosphate.

phosphate.

growth factors.

SIMILARITY: Belongs to the protein-tyrosine phonon-receptor class dual specificity subfamily.

SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FUNCTION: Dual specificity phosphatase (kinase ERK2 on both Thr-183 and Tyr-185 CATALYTIC ACTIVITY: Protein tyrosine ph
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tyrosine + phosphate.
CATALYTIC ACTIVITY: A phosphoprotein +
                                                                               MGI:105120; Dusp1.
                                                                                                                                                                                                                                                                                                                  SWISS-PROT entry is copyright. It is produced through a ceen the Swiss Institute of Bioinformatics and the EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FROM
                                                                                                                                                                                                                                       and this statement is not
requires a license agreeme
IPR000340; DS phosphatase.
IPR008343; MAPK phosph.
IPR001763; Rhodanese-like.
IPR000387; TYR phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N.A.
II; TISSUE=Mammary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; PubMed=12477932
Feingold E.A., G
                                                                                                                                                                                                                                       agreement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gland;
                                                                                                                                                                                                                                       (See
                                                                                                                                                                                                                                                                                                 There are no restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              phosphate +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     that
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          H(2)0
                                                                                                                                                                                                                                       . Usage by and for http://www.isb-sib.
                                                                                                                                                                                                                                                                                                                                                                                                                   phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       dephosphorylates MAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           is a du
kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                H(2)0 =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               early gene and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               dual
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ä
                                                                                                                                                                                                                                                                                                                                        a collaboration
                                                                                                                                                                                                                                                             for
                                                                                                                                                                                                                                                                                                                                                                                                                     family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             vivo.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein
                                                                                                                                                                                                                                           .ch/announce/
                                                                                                                                                                                                                                                                                                                        outstation
                                                                                                                                                                                                                                                                               100
```

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCCCRRRRR OCCCCRP CTT III
                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                   뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local (
                                                                                                                                                                                                                                          DUS1 RAT
Q64623;
Q1-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
ACT_SITE
MUTAGEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPC; 1.
SMART; SM00450; RHOD; 1.
PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS50206; TYR PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR_PHOSPHATASE_DUAL;
PROSITE; PS50054; TYR_PHOSPHATASE_DUAL;
                                                                                                                                                                                        01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 1 (EC 3.1.3.48)
(MAP kinase phosphatase-1) (MKP-1) (Protein-tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
      STRAIN-Sprague-Dawley; TISSUE-Lung;
Muda M., Schlegel W., Arkinstall S.;
Submitted (JAN-1995) to the EMBL/GenBank/DDBJ da
Submitted (JAN-1995) to the EMBL/GenBank/DDBJ da
-i- FUNCTION: Dual specificity phosphatase that
kinase ERK2 on both Thr-183 and Tyr-185.
-i- CATALYTIC ACTIVITY: Protein tyrosine phospha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hydrolase;
                                                                                                                          Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                 Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                  DUSP1 OR CL100
                                                                                       SEQUENCE FROM
                                                                                                             NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           191
                                                                                                                                                                                                                                                                                                                                     348
                                                                                                                                                                                                                                                                                                                                                              356
                                                                                                                                                                                                                                                                                                                                                                                      310
                                                                                                                                                                                                                                                                                                                                                                                                                296
                                                                                                                                                                                                                                                                                                                                                                                                                                         250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  115;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PF00581;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PF00782;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                    HPTN
                                                                                                                                                                                                                                                                                                                                                                                       SQV-
                                                                                                                                                                                                                                                                                                                                                                                                                                      HKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKL--EKSFNSVHLLAGGFAEFSRCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELIQHSAK
                                                                                                                                                                                                                                                                                                                                                              HPAS
                                                                                                                                                                                                                                                                                                                                                                                                             KKIKNQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPV
                                                                                                                                                                                                                                                                                                                                                                                                                                                       RKDMLDALGITALINVSANCPN-HFEGHYQYKSIPVEDNHKADISSWFNEAIDFIDSIKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PGLCEGKSTLVPTCISQP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GRLLAGAYHAVVLLDERSASLDGAKRDGTLALAAGALCREARSTQVFFLQGGYEAFSASC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LRALLREGAAQCLLLDCRSFFAFNAGHIAGSVNVRFSTIVRRRAKGAMGLEHIVPNAELR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PELCSKQST-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20
175
258
258
367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                     351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rhodanese;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ĀΑ;
                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cycle.
                                                                                                                                                                                                                                                                                                                                                                                      LAPHCS----AEAGSPAMAVLDRGTSTTTVFNFPVS
                                                                                                                          Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       39369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PTGLSLPLSTSVPDSAESGCSSCSTPLYDQGGPVEILSFLYLGSAYHAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 433;
Pred. No. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RHODANESE.
PROTEIN-TYROSINE PHOSPHATASE.
PHOSPHOCYSTEINE INTERMEDIATE.
C->S: LOSS OF ACTIVITY.
                                                                                                                          Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       50B5F90FEBBD19AB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                       367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLPVANI -----GPTRILPNLYLGCQRDVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .3e-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 1;
            phosphate
                                                                                                                                                                                                                                                                       A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     151;
                                                   databases
                                     dephosphorylates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                              Murinae; Rattus
             H(2)0
                                                                                                                                                                                            phosphatase
                                                                                                                                                                                                        (EC 3.1.3.16)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                       MAP
                                                                                                                                                                                                                                                                                                                                                                                                                  355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    72
```

```
RESULT 15
DUS1_HUMAN
ID DUS1_HUMAN
                                                                                                                   밁
                                                                                                                                               δ
                                                                                                                                                                              밁
                                                                                                                                                                                                 S
                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                                                                                           ક
                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                  문
                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROSITE; PS50206; RHÓDANESE 3; 1.
PROSITE; PS00383; TYR PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR PHOSPHATASE DUAL;
Hydrolase; Cell cycle.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS; PR01764; MAPKPHPHTASE. SMART; SM00195; DSPc; 1. SMART; SM00450; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pfam; PF00782; DSPc; 1. Pfam; PF00581; Rhodanese; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY: Contains
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        phosphate.
SIMILARITY: Belongs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CATALYTIC ACTIVITY: A phosphoprotein + H(2)0 = a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Non-receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 X84004; CAA58828.1;
S52265; S52265.
; Q16828; 1MKP.
                                                                                                                            307
                                                                        345
                                                                                                                                                                                                        233
                                                                                                                                                                                                                                   188
                                                                                                                                                                                                                                                                                         128
                                                                                                                                                                                                                                                                                                                  128
                                                                                                                                                                                                                                                                                                                                              72
                                                                                                                                                                                                                                                                                                                                                                       70
                                                                                                                                                                                                                                                                                                                                                                                                  13
                                                                                                                                                                                                                                                                                                                                                                                                                           15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                 RPVHPAS
                                                                        IPVHPTN 351
                                                                                                                            QFESQV-----LAPHCS
                                                                                                                                                   DYEKKIKNQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGO
                                                                                                                                                                               IKDAGGRVFVHCQAGISRSATICLAYLMRTNRVKLDEAFEFVKQRRSIISPNFSFMGQLL
                                                                                                                                                                                                       AKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLL
                                                                                                                                                                                                                                 HASRKDMLDALGITALINVSANCPN-HFEGHYQYKSIPVEDNHKADISSWFNEAIDFIDS
                                                                                                                                                                                                                                                          DVLNKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEK
                                                                                                                                                                                                                                                                                                                  FSRCFPGLCEGK-
                                                                                                                                                                                                                                                                                                                                                                      QHSAKHKVDIDCSQKVVVYXDQSSQDVASLSSDCFLTVLLGKL--EKSFNSVHLLAGGFAE
                                                                                                                                                                                                                                                                                                                                                                                                                         LVALLESGIEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQ-----QDKVLITELI
                                                                                                                                                                                                                                                                                        FSASCPELCSKQSTPMGLSLPLSTSVPDSAESGCSSCSTPLYDQGGPVEILSFLYLGSAY
                                                                                                                                                                                                                                                                                                                                           ----RGRLLAGAYHAVVLLDERSAALDGAKRDGTLALAAGALCREARSTQVFFLQGGYEA
                                                                                                                                                                                                                                                                                                                                                                                                  LRALLRERAAQCLLLDCRSFFAFNAGHIVGSVNVRFSTIVRRRAKGAMGLEHIVPNTEL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IPRO00340; DS_phosphatase.
IPRO08343; MAPK_phosph.
IPRO01763; Rhodanese-like.
IPRO00387; TYR_phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20
175
258
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A,
      STANDARD;
                                                                                                  359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         39541 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              dual
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         the
                                                                                                                                                                                                                                                                                                                                                                                                                                                     54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 423; Ub 1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred. No. 9.46
4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROTEIN-TYROSINE PHOSPHATASE PHOSPHOCYSTEINE INTERMEDIATE SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RHODANESE
      PRT;
                                                                                                                             ---AEAGSPAMAVLDRGTSTTTVFNFPVS
                                                                                                                                                                                                                                                                                                               -STLVPTCISQPCLPVANI-----GPTRILPNLYLGCQR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5112ADF290499139 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein-tyrosine
        367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       148;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         phosphatase family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ΉY
                                                                                                                                                                                                                                                                                                                                                                                                                                                     50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                  172
                                                                                                                            344
                                                                                                                                                     352
                                                                                                                                                                                                        292
                                                                                                                                                                                                                                   246
                                                                                                                                                                                                                                                             232
                                                                                                                                                                                                                                                                                                                                             127
                                                                                                                                                                                                                                                                                                                                                                       127
                                                                                                                                                                               306
                                                                                                                                                                                                                                                                                                                                                                                                  71
```

```
A Strausberg R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Schapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
Steapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Lu X., Gibbs R.A.,
RA Pahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R. W., Touchman J.W., Green E.D., Dickson M.C.,
RA Blakesley R. W., Touchman J.W., Green E.D., Dickson M.C.,
RA Blakesley R. W., Touchman J.W., Green E.D., Dickson M.C.,
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA Botherch A., Schein J.E., Jones S.J.M., Marra M.A.;
"Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences".
In FUNCTION: Dual specificity phosphatase that dephosphorylates MAP concepts of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computation of the Computatio
MIM; 600714; -.
MIM; 600714; -.
GO; GO:0004726; F:non-membrane spanning
GO; GO:0006979; P:response to oxidative
InterPro; IPR000340; DS phosphatase.
InterPro: IPR008343; MAPK_phosph.
                                                                                                                                                      EMBL; X68277; CAA48338.1; -.
EMBL; BC022463; AAH22463.1;
PIR; S29090; S29090.
HSSP; Q16828; 1MKP.
                                                                                                                                                                                                                                                                      use by non-profit institutions as long as modified and this statement is not removed. It entities requires a license agreement (See htt or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ÷
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-DEC-1992 (Rel. 24, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
15-MAR-2004 (Rel. 43, Last amotation update)
Dual specificity protein phosphatase 1 (EC 3.1.3.48)
(MAP kinase phosphatase-1) (MKP-1) (Protein-tyrosine
CL100) (Dual specificity protein phosphatase hVH1).
DUSP1 OR PTPN10 OR MKP1 OR CL100 OR VH1.
                                                                                                                                Genew; HGNC:3064; DUSP1.
                                                                                                                                                                                                                                                                                                                                                                                                                   This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=22388257; PubMed=12477932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE=Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein-tyrosine phosphatase.";
Nature 359:644-647(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Keyes S.M., Emslie E.A.;
"Oxidative stress and heat shock induce a human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=Foreskin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=93024952;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    iomo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                     phosphate.
INDUCTION: By oxidative stress and heat shock.
SIMILARITY: Belongs to the protein-tyrosine ph
Non-receptor class dual specificity subfamily.
SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CATALYTIC ACTIVITY: Protein tyrosine phosphate + tyrosine + phosphate.
CATALYTIC ACTIVITY: A phosphoprotein + H(2)O = a
                                                                                                                                                                                                                                                                                                                                                                   European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                        SWISS-PROT entry is copyright. It is produced through sen the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PubMed=1406996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                              oved. Usage by and for commercial (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                     There are no restrictions ong as its content is in
                                                                 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cyrosine phosphatase subfamily.
                                                                 TAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gene encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               H(2)0 =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (EC 3.1.3.16)
                                                                                                                                                                                                                                                                                                                                                                                             EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                           collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ø
                                                                                                                                                                                                                                                                                                                                                  ខ្ល
                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                     ite
```

```
Search completed: June 21, 2004, 13:21:07 Job time: 16.4416 secs
                                                                                Ş
                                                                                                          유 상 유
                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                          B 8
                                                                                                                                                                                                                                                                                            뭐
                                                                                                                                                                                                                                                                                                                          성 유
                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 113; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR001763; Rhodanese-like.
InterPro; IPR000387; TYR_phosphatase.
Pfam; PP00782; DSPc; 1.
PRINTS; PR01764; Rhodanese; 1.
PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPc; 1.
SMART; SM00195; DSPc; 1.
SMART; SM00450; RHOD; 1.
PROSITE; PS00206; RHODAHESE 3; 1.
PROSITE; PS00383; TYR_PHOSPHATASE_1; 1.
PROSITE; PS00383; TYR_PHOSPHATASE_DUAL; 1.
PROSITE; PS50054; TYR_PHOSPHATASE_DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hydrolase; Cell cycle.

DOMAIN 20 137

DOMAIN 175 367

ACT_SITE 258 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                          178
                                                                                                                                                                                252 GRVFVHCQAGISRSATICLAYLMRTNRVKLDBAFEFVKQRRSIISPNFSFMGQLLQFESQ 311
                                                                                                                                                                                                              238
                                                                                                                                                                                                                                                                                                        133
                                                                                                                                                                                                                                                                                                                                     133
                                                            360
                                                                                        354 PV 355
                                                                                                                       312
                                                                                                                                                  298 IKNOTGASGPKSKLKLLHLEKPNEPVPAVSEGGOKSET----PLSPPCADSATSEAAGOR 353
                                                                                                                                                                                                                                            193 DMLDALGITALINVŚANCPN-HPEGHYQYKSIPVEDNHKADISSWFNEAIDFIDSIKNAG 251
                                                                                                                                                                                                                                                                                                                                                                 73
                                                                                                                                                                                                                                                                                                                                                                                            75 HKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVILIGKL--EKSFNSVHLLAGGFAEFSRCF 132
                                                                                                                                                                                                                                                                                                                                                                                                                            13
                                                                                                                                                                                                                                                                                                                                                                                                                                            15 LVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELIQHSAK 74
                                                                                                                                                                                                                                                                                                                                                                 GRILAGAYHAVVILDERSAALDGAKRDGTLALAAGALCREARAAQVFFLKGGYEAFSASC 132
                                                            PI 361
                                                                                                                                                                                                   GCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKK 297
                                                                                                                                                                                                                                                             ELIQQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASN 237
                                                                                                                                                                                                                                                                                                     PELCSKQSTPMGLSLPLSTSVPDSAESGCSSCSTPLYDQGGPVEILPFLYLGSAYHASRK 192
                                                                                                                                                                                                                                                                                                                                  PGLCEGK-----STLVPTCISQPCLPVANI-----GPTRILPNLYLGCQRDVLNK 177
                                                                                                                                                                                                                                                                                                                                                                                                                           V-----LAPHCS----AEAGSPAMAVLDRGTSTTTVFNFPVSIPVHSTNSALSYLQS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  367 AA; 39297 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12.3%; Score 420; DB 1; Length 367; llarity 31.2%; Pred. No. 1.4e-18; Conservative 56; Mismatches 159; Indels 34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RHODANESE.
PROTEIN-TYROSINE PHOSPHATASE.
PHOSPHOCYSTEINE INTERMEDIATE
SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11BD1D39A9FCD51F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                              72
```

```
Command line parameters:

-MODEL=frame+_p2n.model -DEV=xlh
-MODEL=frame+_p2n.model -DEV=xlh
-Q=/cgn2_1/USPTO_epool/US10029345/runat_21062004_164146_29039/app_query.fasta_1.1294
-Q=/cgn2_1/USPTO_epool/US10029345/runat_21062004_164146_29039/app_query.fasta_1.1294
-DBESST_OCPMT=fastap_SUFFIX=rst_MAXTEH=0.1 -LOOPEXT=0
-UNITS=bits -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi -LIST=45
-DOCALLIGN=200 -THR_SCORE=pct -THR_MAX=100 -THR_MIN=0 -ALIGN=15 -MODE=LOCAL
-OUTFMT=pto -NORM=ext -HEAPSIZE=500 -MINLEN=0 -MAXLEN=2000000000
-USER=US10029345_@CGN 1 1 3931 @runat_21062004_164146_29039 -NCPU=6 -ICPU=3
-NO_MMAP -LARGEQUERY -NEG_SCORES=0 -WAIT -DSPBLOCK=100 -LONGLOG
-DEV_TIMEOUT=120 -WARN_TIMEOUT=30 -THREADSI -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -XGAPDE>1 -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nucleic search, using frame_plus_p2n model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Xgapop 10.0,
Ygapop 10.0,
Fgapop 6.0,
Delop 6.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              June 21, 2004, 20:53:18; Search time 4983.03 Seconds (without alignments) 3985.196 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-029-345A-109
3418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EST:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                27513289 segs, 14931090276 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BLOSUM62
                                                                                                                                                                                                                                                                                                                                                              10:
11:
12:
12:
13:
14:
15:
16:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MAHEMIGTQIVTERLVALLE.....LGKVGSQSSFSGSMEIIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  em_estv::
em_tc::
em_htc::
gb_est1::*
gb_est2::
gb_htc::
gb_est3::
gb_est4::*
em gss vrt:*
em gss mam:
em gss mus:
em gss mus:
em gss pro:
em gss rod:*
em gss vrl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          em_estin:*
                                                                                                                                                                                                                                                                           em_gss_hum: *
em_gss_inv: *
em_gss_pln: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    em_estpl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                em estov:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 em_esthum:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  em_estba:*
                                                                                                                                                                                                                                                                                                                                                                                           em_estom:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             estmu:*
                                                                                                                                                                                                                                                                                                                                                                                                                               estfun:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                est5:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Xgapext
Ygapext
Fgapext
Delext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7.0
7.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               55026578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   665
```

9: gb_gss2:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	ი									ი			ი	ი	a										,	ი				(נ													Result No.
45	44	43	42	41	40	39	38	37	36	35	34	ω	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	, .	1 5	7 7	; =	10	9	œ	7	σ	ഗ	4	w	N	-	ult No.
749.5	762	768.5	769	770	772.5	٠	823.5		839.5	872	891	911	N	ω	93	964.5	97	972.5	978.5	979	1006	1029.5	1047	1059.5	1065	_	1073.5	1075	1076	ے د	1084.5	1101	1140	1216	1306	1327	36	9	μ	375.	7.	1412	1553	
21.9	۶		۶,				٠.	4.	4.	5	9	•	27.1	7.	.7	8	ω.		8	28.6	9		۰.	- 1	_ :	31.3	٠.	-:	31.5	- :	٠:	ى د	ه د	·		8	9			•	40.9	41.3	45.4	Query Match
538	512	594	579	619	683	516	516	723	586	792	3325	1067	631	595	602	739	693	743	924	621	650	752	663	790	983	660	946	891	639	656	683	0 / L	315	769	862	2207	903	φ	S	7	883	œ	1060	Length
																													<u>,</u>		_ ;			۰,	13	11	12	13	13	13	13	13	12	DB
AW909957	BF81560	CF727694	ш			AY41365										AZ850283			CA474739			_	_		_	_	BI65752	B067098	CF74238	CF53291	BIR1695	CF / 2 / 1 /	B182177	BU704078	BQ770036		BG.	BQ721265	Q93349	BQ951695	Q94589	3014	BM546940	ID
AW909957 ur78b11.y	BF815601 MR2-CI012	94 UI-M-HBO	BF582366 602094304	ő	425	13657	655 Homo	M-ID	L maj:	703	Mue	7 60178082	_	٠,	01		⋗		4739	'ע	2046	2082 AGENCOUR	X479029 DKFZp686	I661614 60330574	G165188 60234405	1917706 60318368	1657528	0670989 AGENCOUR	F742387 UI-M-HB0	F532917 UI-M-GHO	I816954 imagego	01-M-MEG	CB227177 III -M-WB0-	CT-M-400	6 UI-M-FIO	. Ното вар	BG482429 602526595	٠.	99	951695	945892	30140 AG	BM546940 AGENCOURT	Description

ALIGNMENTS

REFERENCE	SOURCE ORGANISM	KEYWORDS	VERSION	ACCESSION		DEFINITION	Locus	BM546940	RESULT 1
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 1060)		EST.	BM546940.1 GI:18780310	BM546940	5', mRNA sequence.	AGENCOURT 6491295 NIH M	BM546940 1060 bp mRNA linear EST 20-FEB-2002		
1.						23711	-2002		

```
뫄
                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                      Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-029-345A-109 (1-665) x BM546940 (1-1060)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
             303 GlyAlaSerGlyProlysSerLysLeuLysLeuLeuHisLeuGluLysProAsnGluPro
                                                                                                                283
                                                                                                                                                 306
                                                                                                                                                                               263
                                                                                                                                                                                                            246
                                                                                                                                                                                                                                           243
                                                                                                                                                                                                                                                                           186
                                                                                                                                                                                                                                                                                                        223
                                                                                                                                                                                                                                                                                                                                     203 GluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeuProTrp
                                                                                                                                                                                                                                                                                                                                                                                                                                            NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Invitrogen
cDNA Library Preparation: Life Technologies, Inc.
CDNA Library Preparation: Life Technologies, Inc.
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can be
http://image.llnl.gov
Plate: LLAM12711 row: m column: 24
                                                                                                                                                                                                                                                                                                                                                                                                                                  183
                                                                                                                                                                                                                                                                                                                                                                                                     66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity:
                                                                                 ProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsnGlnThr
                                                                                                                            atggácátgtetttágátgáágettácagátttgtgááágááááááááágácetaetatátet
                                                                                                                                               LeuAspLysSerValAspPhelleGluLysAlaLysAlaSerAsnGlyCysValLeuVal
                                                                                                                                                                                          cactigititadetigadatetiecegetiecegecaceategategetiategetiaeateateategagg
                                                                                                                                                                                                                HisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMetLysArg
                                                                                                                                                                                                                                                       ttggachaatchgtagatttcattgagaangcahaagcctcchatggatgtgttctagtg
                                                                                                                                                                                                                                                                                                                   GAGTCTCÁTTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTGCCCGTGG
                                                                                                                                                                                                                                                                                                                                                                                  AATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTTATCCCC
                                                                                                                                                                                                                                                                                                                                                                                                     AsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPheIlePro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 High quality sequence stop: 737.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Homo sapiens"
/mol type="mRNA"
/db_xref="taxon:9606"
/clone="IVAGE:5723711"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /cloime_lib="NIH_MGC_125"
/rote="Organ: ovary (pool of 3); Vector: pCMV-SPORT6;
Site_1: ECORV (destroyed); Site_2: Not1; RNA source pool
of three ovaries, from females ranging in age from 38 to
49 yo. Library is oligo-dT primed and directionally cloned
ECORV site is destroyed upon cloning). Average insert
normalized and enriched for full-length clones and was
constructed by C. Gruber (Invitrogen). Research Genetics
tracking code 036."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2.95e-125
1553.00
93.91%
91.88%
45.44%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .1060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15
7
2
                                  322
                                                               425
                                                                                             302
                                                                                                                                                                                                                                                                                       242
                                                                                                                                                                                          305
                                                                                                                                                                                                                                                       245
                                                                                                                                                                                                                                                                                                                    185
                                                                                                                                                                                                                                                                                                                                                   222
                                                                                                                                                                                                                                                                                                                                                                                  125
                                                                                                                                                                                                                                                                                                                                                                                                               202
                                                        FEATURES
                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                           SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 2
BQ930140
LOCUS
                                                                                                                                                                                                                                  COMMENT
                                                                                                                                                                                                                                                                                                                                                                           KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Дd
                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                         Bukaryota; Metazoa; Chordata; Cr:
Mammalia; Eutheria; Primates; Cat
1 (bases 1 to 881)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mature (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1016 TTATCCTCCAC 1026
                                               cDNA Library Preparation: Rubin Laboratory cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Agencourt Bioscience Corporation Clone distribution: MGC clone distribution information can found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov Plate: LLCM2648 row: h column: 21 High quality sequence stop: 676.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    482 sArg-LeuHisSerValArgThrSerSerSer---GlyThrAlaGlnArgSerLeuLeuS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         443
                                                                                                                                                                                      Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      423
                                                                                                                                                                                                                   Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    657
                                                                                                                                                                                                                                                                                                                                                                                                   AGENCOURT_8923732 NIH MGC_101 Homo 5', mRNA sequence.
B0933140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 383
                                                                                                                                                                                                                                                                                                                                           Homo
                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           546 GÁCTCTGCTÁCCTCÁGAGGCÁGCAGGACAAAGGCCCCTGCATCCCGGC-----AGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               343 AspSerAlaThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerValProSer
                                                                                                                                                                                                                                                                                                                                                                                       BQ930140.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                    BQ930140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GĆĠĠĀŤŤĠĊĀŤŤĊŃGNTCAGAĀCCCAGCĀGCĀGCĀGĠĠĊĀĊĊĠĊĊCCĀGĀĀNGTCCCĊŤŤT 1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAGGAAGCCAGCATCCCCCAGAAGCTGCAGACCGCCAGGGCTTTCAGACAGCCAGAAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GluGluAlaSerIleProLysLysLeuGlnThrAlaArgPro-SerAspSerGlnSerLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             erProLeuHis 504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TĠĊĊĀĠŦŦĊŦĊĊĊĊŦĠNŦĊĀŊĠĀĀĊŦĀŦĊĠĠĀĠĊĀĠĀĊŦĊĊĊĠĀĀĀĊĊĀĠŦĊŦ-ĠĀŦĀĀĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CysGlnPheSerProValGlnGluLeuSerGluGlnThrProGluThrSerProAspLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rcagaagargetrregaatractacaacetrecaetrecaetregargegaecaaccaagetra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GATATCAAATCAGTTTCATATTCAGCCAGCATGGCAGCATCCTTACATGGCTTCTCCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AspIleLysSerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPheSerSer 422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LeuHisLeuSerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPheSerLeu 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ValProSerValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeuSerGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGCACCTGTCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTCTCTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gracccadecirecadecerederializadadeacadececeradracadececeredericadrede
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTCCCTGCTGTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCCTGTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ValProAlaValSerGluGlyGlyGlnLysSerGluThrProLeuSerProProCysAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGAGCATCAGGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAATGAACCT
                                                                                                                                                                                                                                                                                                                                       sapiens
/organism="Homo sapiens'
/mol_type="mRNA"
                                                                                                                                                                                                                                                                                                                                                                                  GI:22345171
                                                                                                                                                                                                                                                                                                                                                       (human)
                                                                                                                                                                                                                                                                                             Craniata; Vertebrata; E
Catarrhini; Hominidae;
                                                                                                                                                                                                                                                  Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                            mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                           sapiens
                                                                                                                                                                                                                                              Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                      linear EST 20-AUG-2002 cDNA clone IMAGE:6460964
```

501 955

895 462

442 836

776

716

382 656

596 362 545

Euteleostomi;
; Homo.

Ó 밁 Ś 밁 Ś В δõ 뭐 Ś

```
US-10-029-345A-109 (1-665) x BQ930140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Y Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Scores:
663
                                         486
                                                                                                                         466
                                                                                                                                                                   543
                                                                                                                                                                                                                                                     483
                                                                                                                                                                                                                                                                                                                                       423
                                                                                                                                                                                                                                                                                                                                                                              406
                                                                                                                                                                                                                                                                                                                                                                                                                           363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          w
                            SerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeuSerProLeuHisArg
                                                                                                            SerIleProLysLysLeuGlnThrAlaArgProSerAspSerGlnSerLysArgLeuHis
                                                                                                                                                                 TCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCTGATAAGGAGGAAGCC
                                                                                                                                                                                                SerProValGlnGluLeuSerGluGlnThrProGluThrSerProAspLysGluGluAla
                                                                                                                                                                                                                                                       GTTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAACAAGCTATGCCAGTTC
                                                                                                                                                                                                                                                                                          AlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsnLysLeuCysGlnPhe
                                                                                                                                                                                                                                                                                                                                                             SerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPheSerSerSerGluAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPheSerLeuAspIleLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAGTGGGCTGCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeuSerGlyLeuHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCTCAGAGGCAGCAGACAAAGGCCCGTGCATCCCGCCAGCGTGCCCAGCGTGCCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ThrSerGluAlaAlaGlyGlnArgProValHisProAllaSerValProSerValProSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCCTGTGCCGACTCTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ValSerGluGlyGlyGlnLysSerGluThrProLeuSerProProCysAlaAspSerAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAAATGAACCTGTCCCTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GlyProLy6SerLy6LeuLy8LeuLeuHi8LeuGluLy8ProA8nGluProValProAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AATTTTCTGGGCCAACTCCTGGACTATGAGAAGAATTAAGAACCAGACTGGAGCATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsnGlnThrGlyAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerLeuAspGluAlaTyrArgPheValLysGluLysArgProThrIleSerProAsnPhe
TCGGTCAGAACCAGCAGCAGTGGCACCGCCCAGAGGTCCCTTTTATCTCCACTGCATCGA
                                                                                                                                                                                                                                                                                                                                                                                                                        TCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTCTCTCTGGATATCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone="IMAGE:6460964"
/tissue_type="epidermoid carcinoma, cell line"
/tissue_type="epidermoid carcinoma, cell line"
/lab_nost="DH108 (phage-resistant)"
/clone_lib="NIH MGC_101"
/clone_lib="NIH MGC_101"
/note="Organ: lung; Vector: pOTB7; Site_1: EcoRI; Site_2:
/note="Organ: lung; Vector: pOTB7; Site_1: EcoRI; Site_2:
/note="Organ: lung; Vector: poTB7; Site_1: adaptor:
into_EcoRI/XhoI sites using the following 5' adaptor:
GGCACGAG(G). Library constructed by Ling Hong in the
laboratory of Gerald M. Rubin (University of California,
Berkeley) using ZAP-cDNA synthesis kit (Stratagene) and
Superscript II RT (Life Technologies). Note: this is a
NIH_MGC_Library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4.98e-113
1412.00
98.62%
98.62%
41.31%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (1-881)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      881
285
1
                                                                                                                           485
                                                                                                                                                                                                             465
                                                                                                                                                                                                                                                                                             445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  305
722
                                         505
                                                                                   662
                                                                                                                                                                     602
                                                                                                                                                                                                                                                       542
                                                                                                                                                                                                                                                                                                                                         482
                                                                                                                                                                                                                                                                                                                                                                                 425
                                                                                                                                                                                                                                                                                                                                                                                                                           422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            62
```

ક 밁 ર્ફ 밁 ð 밁 ક 밁 ર્ 밁 S 밁 ફ 밁 S

ð 밁 ર્ 밁

유 ક 밁 Best I Query DB:

5

밁

```
Alignment S
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BQ945892
LOCUS
                                   밁
                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
S
                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
                                                                                                               US-10-029-345A-109 (1-665) x BQ945892 (1-883)
                                                                                                                                                                       Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                           Match:
                                                                                                                                                                                                                                                                    Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           783
 286 AsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsnGlnThrGlyAlaSer 305
                                       w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 (bases 1 to 883)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CDNA Library Preparation: Rubin Laboratory
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image-llnl.gov
Plate: LLCM2653 row: o column: 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGENCOURT 8926314 NIH MGC 101
5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; I
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BQ945892.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BQ945892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BQ945892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerGlySerValGluAspAsnTyrHisThrSerPheLeu-PheGlyLeuSerThrSerGl
                                       TCTTTAGATGAAGCTTACAGATTTGTGAAAGAAAAAAGACT-ACTATATCTCCAA--CTT
                                                             SerLeuAspGluAlaTyrArgPheValLysGluLysArgProThrIleSerProAsnPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCCCCCAGACCTCTACCCCT 863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          la-ProGlnThrSerThrPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCAGCACCTCACGAAGTCTGCTGGCCTGGGGCCTTAAGGGCTGGCACTCGGATATCTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nGlnHisLeuThrLysSerAlaGlyLeu-GlyLeuLysGlyTrpHisSerAspIleLeuA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    quality sequence stop:
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                  /tissue_type="epidermoid carcinoma, cell line"
/lab host="DHIOB (phage-resistant)"
/clone lib="NIH_MGC_101"
/clone lib="NIH_MGC_101"
/note="Organ: lung; Vector: pOTB7; Site_1: EcoRI; Site_2:
/note_Torgan: lung; Vector: pOTB7; Site_1: EcoRI; Site_2:
/note_CDNA made by oligo-dT priming. Directionally cloned into EcoRI/XhoI sites using the following 5' adaptor:
GGCACGAG(G). Library constructed by Ling Hong in the laboratory of Gerald M. Rubin (University of California, Berkeley) using ZAP-CDNA synthesis kit (Stratagene) and Superscript II RT (Life Technologies). Note: this is a NIH_MGC Library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Homo sapiens"
/mol_type="mRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /db_xref="taxon:9606"
/clone="IMAGE:6463045"
                                                                                                                                                   9.34e-112
1397.50
97.29%
96.95%
40.89%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      551
                                                                                                                                                                       Conservative: Mismatches: Indels:
                                                                                                                                                                                                                              Length:
Matches:
                                                                                                                                                   Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            672.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      bp
1 Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        mRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sapiens
                                                                                                                                                   883
286
8
3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear EST 21-AUG-2002 cDNA clone IMAGE:6463045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           782
```

유 성 ДD 5 밁 S 밁 δ 밁

> 366 240 346 180 326 120 306

be

```
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 974)

NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BQ951695
AGEMCOURT 8947130 NIH_MGC_101
5', mRNA Sequence.
BQ951695
BQ951695.1 GI:22367173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ProGlnThrSerThrProSerLeuThrSerSerTrpTyrPheAla 560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ccccadaccrcracccrrrcccridacacccadcridgrarrrrgcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         chácháchtcháchhairteirigeirigeirigeachtnaa-igeirigeachtricheantairtegeach
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlnHisLeuThrLysSerAlaGlyLeuGlyLeuLysGlyTrpHisSerAspIleLeuAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGTGGGAĞCGTĞĞAĞĞACAATTACCACACCAĞCTTCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           regerea da a regere de la recepción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcción de la construcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeuSerProLeuHisArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a G C A T C C C A A G A A G C C G C C A G G C C T T C A G A C A G C C A G C C A T T G C A T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerProValGlnGluLeuSerGluGlnThrProGluThrSerProAspLysGluGluAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             recerrente de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gttíridésadráctackasácetreceschaerereggardegakecasácetareceserre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsnLysLeuCysGlnPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rcagriticatatica decadecated case a recritaca redetre create a sa a reada a care a case a recreate a reada a care a care a reada a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care a care
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPheSerLeuAspIleLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                erreckéetéertéerrakékéekéekéetéetréerrakékéetéeréekétréekéerekketré
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCTCAGAGGCAGCAGAAAAGGCCCGTGCATCCCGCCAGCGTGCCCAGCGTGCCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ThrserGluAlaAlaGlyGlnArgFroValHisProAlaSerValProSerValProSer 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ĠŦĊŦĊĂĠĂĠĠĠŦĠĠĀĊĀĠĀĀĀĀĠĊĠĀĠĀĊĠĊĊĊĊŦĊĀĠŦĊĊĀĊĊĊŦĠŦĠĊĊĠĀĊŦĊŦĠĊŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ĠĠĠĊĊħĀĠĠĠĊĀĀĀĊŦĊĀĀĠĊŦĠĊŦĠĊĀĊĊŦĠĠĀĠĀĀĠĊĀĀĀŦĠĀĀĊĊŦĠŦĊĊĊŦĠĊŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsnGluProValProAla 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       · GĠĀĀĠĀĊĀĠĊĀĀTĀĀĀĠĊŦĊĀĀĠĊĠŦŦĊĊŦŦĊŦĊŦĊŦĠĠĀŦĀŦĊĀĀĀ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bp
1 Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rrregectriceaceagecag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear Eg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EST 21-AUG-2002
ne IMAGE:6461668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                119
                                                  밁
                                                                                                                 Ş
                                                                                                                                                                                                    맑
                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-029-345A-109 (1-665) x BQ951695 (1-974)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                         483
                                                                                                                     426
                                                                                                                                                                                            423
                                                                                                                                                                                                                                                                       406
                                                                                                                                                                                                                                                                                                                                                       363
                                                                                                                                                                                                                                                                                                                                                                                                                              386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                w
GTTTTGĠĀĀTĀCTĀCĀĀĀCCTTCCĀCTĀCTCTGGĀTĠĠĢĀCCĀĀCĀĀĠĊTĀTĠCCĀĠTTC
                                              AlaLeuGluTyrTyrLysProSerThrThrLeuAspGlYThrAsnLysLeuCysGlnPhe
                                                                                                                                                                                                         SerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPheSerSerSerGluAsp
                                                                                                                                                                                                                                                                                                                                                               GTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAGTGGGCTGCACCTG
                                                                                                                                                                                                                                                                                                             TCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTCTCTCTGGATATCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCTCAGAGGCAGGACAAAGGCCCGTGCATCCCGCCAGCGTGCCCAGCGTGCCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerValProSerValProSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ValSerGluGlyGlyGlnLysSerGluThrProLeuSerProProCysAlaAspSerAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTCTCAGAGGGTGGACAGAAAAGCGAGACGCCCCTCAGTCCACCCTGTGCCGACTCTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsnGluProValProAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tissue Procurement: ATCC CDNA Library Preparation: Rubin Laboratory CDNA Library Preparation: Rubin Laboratory CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Agencourt Bioscience Corporation Clone distribution: MGC clone distribution information can found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov plate: LLCM2650 row: f column: 05 High quality sequence stop: 617.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsnGlnThrGlyAlaSer 305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGACTGGAGCATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTTTAGATGAAGCTTACAGATTTGTGAAAGAAAAAAAGACCTACTATATCTCCAAACTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerLeuAspGluAlaTyrArgPhsValLysGluLysArgProThrIleSerProAsnPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /clone="IMAGE:461668"
/tissue_type="epidermoid carcinoma, cell line"
/tissue_type="epidermoid carcinoma, cell line"
/lab_host="DH10B (phage-resistant)"
/clone_lib="NIH MGC 101"
/clone_lib="NIH MGC 101"
/note="Organ: lung; Vector: pOTB7; Site_1: EcoRI; Site_2:
XhoI; cDNA made by oligo-dT priming. Directionally cloned
into EcoRI/XhoI sites using the following 5' adaptor:
into EcoRI/XhoI sites using the following 5' adaptor:
GGCACGAG(G). Library constructed by Ling Hong in the
laboratory of Gerald M. Rubin (University of California,
Superscript II RT (Life Technologies). Note: this is a
NIH_MGC Library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1. .974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9.37e-110
1375.50
91.82%
91.51%
40.24%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     mol_type="mRNA"
db_xref="taxon:9606"
                                                                                                                                                      rcagecageategeageatecttacategetteteteateagaagat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     974
291
1
18
8
8
```

REFERENCE AUTHORS TITLE JOURNAL COMMENT

445 482

422 405

385 362

302

365 242 345 182

122

62

ACCESSION VERSION KEYWORDS SOURCE ORGANISM

fomo sapiens (human)

sapiens

RESULT 4
BQ951695
LOCUS

DEFINITION

문 Ş

839 546 780 526

Ś 밁

뭐 Ş Б 8 밁 Ş В Ş 밁 Ś 뮍 δ 문 5

720

506 660 486 600 466 540

446 480

420

360 386 300

TCCGCAGACAGGCT

Site 2:

```
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 5
BQ933499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         र्ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           음 성 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pocus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        544 --LeuAlaProGlnThrSerThrPro-SerLeu-ThrSerSerTrpTyrPheAlaThrGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDNA Library Preparation: Rubin Laboratory
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLCM2634 row: i column: 04
High quality sequence stop: 727.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BQ933499 BT32489 NIH_MGC_101 Homo KGC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 Homo GC_101 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 (bases 1 to 859)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, M
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 859)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              uSerSerHis---PheTyrSerAlaSerAla-IleTyrGlyGly 575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTTTGGGCCCCCAGACCTCTACCCCTTTCCCTGAACAAGAAGCTGGTAATTTTGCCCACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGCAGCACCCTCACGAATCCTGCTGGCCTGGGGCCCTTAGGGCTGGGCACTTCGAATAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GlnGlnHis-LeuThrLysSerAlaGlyLeuGlyLeuLys-GlyTrpHisSerAspIle-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SerGlySerValGluAspAsnTyrHisThrSerPhe---LeuPheGlyLeuSerThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeuSerProLeuHisArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAGAGCAAGCGATTGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SerIleProLysLysLeuGlnThrAlaArgProSerAspSerGlnSerLysArgLeuHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCTGATAAGGAGGAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerProValGlnGluLeuSerGluGlnThrProGluThrSerProAspLysGluGluAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGTGGGACCGTGGAGGACAATTACCACACCCAGCTTCCCCTTTTCCGGCCTTTCCACCAGC
/clone="IMAGE:645595"
/tlssue_type="epidermoid carcinoma, cell line"
/tlssue_type="epidermoid carcinoma, cell line"
/lab_host="DHIDB (phage-resistant)"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC_101"
/clone_lib="NHH MGC
                                                                                                                                                                                                                                                                                                                                                          /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                      . 859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ion/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              mRNA
sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear EST 21-AUG-2002 CDNA clone IMAGE:6455595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        505
                                                                                                                    S
                                                                                                                                                                                 밁
                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                          닭
                                                                                                                                                                                                                                                                                                                                                       á
                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ΄δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뭉
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local S
Query Match:
                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-029-345A-109 (1-665) x BQ933499 (1-859)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
            RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Мо
::
                                                                                                                                                                                                                                                                                                                                                                506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Scores:
                                                                      843
                                                                                                                                                                                        783
                                                                                                                                                                                                                                               526
                                                                                                                                                                                                                                                                                                         723
                                                                                                                                                                                                                                                                                                                                                                                                                           663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     286 AsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsnGlnThrGlyAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3 TCTTTAGATGAAGCTTACAGATTTGTGAAAGAAAAAAAGACCTACTATATCTCCAAACTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlyProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsnGluProValProAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SerLeuAspGluAlaTyrArgPheValLysGluLysArgProThrIleSerProAsnPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerProValGlnGluLeuSerGluGlnThrProGluThrSerProAspLysGluGluAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGACTGGAGCATCA
                                                                                                                             uAlaPro
                                                                                                                                                                                                                         GlnHisLeuThrLysSerAlaGly-LeuGly-LeuLysGlyTrp--HisSerAspIleLe
                                                                                                                                                                                                                                                                                                                                        SerGlySerValGluAspAsnTyrHisThrSerPheLeuPheGlyLeuSerThrSerGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerValArgThrSerSerSerGlyThrAlaGlnArgSerLeuLeuSerProLeuHisArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SerIleProLysLysLeuGlnThrAlaArgProSerAspSerGlnSerLysArgLeuHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTTTTGGAATACTACAAACCTTCCACTACTCTGGATGGGACCAACAAGCTATGCCAGTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AlaLeuGluTyrTyrLysProSerThrThrLeuAspGlyThrAsnLysLeuCysGlnPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SerValSerTyrSerAlaSerMetAlaAlaSerLeuHisGlyPheSerSerSerGluAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SerAlaAspArgLeuGluAspSerAsnLysLeuLysArgSerPheSerLeuAspIleLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGCAGCCGTCGCTGTTAGAGGACAGCCCGCTGGTACAGGCGCTCAGTGGGCTGCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ValGlnProSerLeuLeuGluAspSerProLeuValGlnAlaLeuSerGlyLeuHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ThrSerGluAlaAlaGlyGlnArgProValHisProAlaSerValProSerValProSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ValSerGluGlyGlyGlnLysSerGluThrProLeuSerProProCysAlaAspSerAla
                                                                      rececce
                                                                                                                                                                                        CAGCACCTCACGAAGTCTGCTGGCCCTGGGCCCTTAAGGGCTGGNNCACTCGGATATTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGCATCCCCAAGAAGCTGCAGACCGCCAGGCCTTCAGACAGCCAGAGCAAGCGATTGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCCCCTGTTCAGGAACTATCGGAGCAGACTCCCGAAACCAGTCCTGATAAGGAGGAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCAGTTTCATATTCAGCCAGCATGGCATCCTTACATGGCTTCTCCTCATCAGAAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCCGCAGACAGGCTGGAAGACAGCAATAAGCTCAAGCGTTCCTTCTCTCTGGATATCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCTCAGAGGCAGCAGACAAAGGCCCGTGCATCCCGCCAGCGTGCCCAGCGTGCCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGGCCAAAGAGCAAACTCAAGCTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTGCT
                                                                      849
                                                                                                                             546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8.37e-110
1375.00
97.89%
97.89%
40.23%
                                                                                                                                                                                                                                                                                                            Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    859
279
2
```

```
밁
                                                                                                 Ş
                                                                                                                               D
D
                                                                                                                                                                 Ś
                                                                                                                                                                                                      В
                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                       US-10-029-345A-109 (1-665) x BQ721265 (1-898)
                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                             Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                    Мо.
:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                       134
44
                                                                                                                                    74
                                                                                                                                                                   24
                                                                                                                                                                                                  14
                                                    GAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAGTG
                                                                       GluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGlnAspLysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Email: cgapbs-remail.nih.gov
Tissue Procurement: Dr. James R. Lupski
CDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
plate: LLAM13399 row: 1 column: 08
                                                                                                                  daaaaadrigeraerraarrigarageeggeearrrigriggaaracaaraeareeceacarrrig
                                                                                                                                     GluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSerHisIleLeu 43
                                                                                                                                                                               Bukaryota; Metazoa; Chordata; Craniata; V
Mammalla; Butheria; Primates; Catarrhini;
1 (bases 1 to 898)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BQ721265
BQ721265.1 GI:21860162
EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BQ721265
898 bp mRNA
AGENCOURT 8294508 Lupski sympathetic_trunk
IMAGE:6194455 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                      /tissue type="sympathetic trunk"
/dev stage="adult, 16 yr"
/lab_host="DH10B"
/clone lib="Lupski sympathetic trunk"
/note="Vector: pCMV-SPORT6 (Life Technologies); Site_1:
NotI; Site_2: SalI; cDNA made by oligo-dT priming.
Directionally cloned using the following adaptors:
5'-TCGACCCAGGGGTCCG-3' and
S'-GACTAGTTCTNGATGCGAGCGGCCCT(15)-3'. Size selected >
1 kb for average insert length 1.9 kb. This is a primary
Technologies and donated by J. Lupski, M.D./Ph.D. (Baylor College of Medicine); available through Life
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              quality sequence stop: 669.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/clone="IMAGE:6194455"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'sex="male"
                                                                                                                                                                                                                                                                                           2.74e-109
1369.50
95.27%
94.26%
40.07%
                                                                                                                                                                                                                                                                                                                     Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                    Gaps:
                                                                                                                                                                                                                                                                                                         Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                    898
279
3
12
12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gene Collection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear EST 16-JUL-2002
Homo sapiens cDNA clone
                                                     193
                                                                                 63
                                                                                                                  133
                                                                                                                                                                                 73
                                                                                                                                                                                                                23
```

```
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                      SOURCE
ORGANISM
                                                                                                                                                                                                                    ACCESSION
VERSION
                                                                                                                                                                                                                                                 RESULT 7
BG482429
LOCUS
DEFINITION
                                                                                                                                                                                                           KEYWORDS
                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                          뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뭥
852
                                                                                                                                                                                                                                                                                                                       283
                                                                                                                                                                                                                                                                                                                                           792
                                                                                                                                                                                                                                                                                                                                                              264
                                                                                                                                                                                                                                                                                                                                                                                 733
                                                                                                                                                                                                                                                                                                                                                                                                     244
                                                                                                                                                                                                                                                                                                                                                                                                                          673
                                                                                                                                                                                                                                                                                                                                                                                                                                             224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  614
                                                                                      Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         554
                                                                                                                       1 (bases 1 to 903) (A. Marcos) Catalrinin;
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo
                                                                                                                                                                                                                                 BG482429 903 bp n
602526595F1 NIH_MGC_21 Homo sapiens
mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 494
                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            144
                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                  BG482429
BG482429.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        104 LeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeuLeuAlaGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   194
                                                                                                                                                                                                                                                                                                        OASnPheAsn---PheLeuGlyGlnLeuLeuAspTyrGluLysLys
                                                                                                                                                                                                                                                                                          AAAACTTCAAATTTTCTTGGGCCAACTCCCTGGCATTATGAAAAA
                                                                                                                                                                                                                                                                                                                                AspMetSer-LeuAspGluAlaTyrArgPheValLysGluLysArgProThrIleSerPr 283
                                                                                                                                                                                                                                                                                                                                                                        restriaectedearcicceccicciccec-accarecectarecectaecareargaagaagare
                                                                                                                                                                                                                                                                                                                                                                                     CysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMetLysArgMet
                                                                                                                                                                                                                                                                                                                                                                                                              GACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                            AspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysValLeuValHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAATT-TTGCCGTGGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerH1sPheLeuArgValProValAsnAspSerPheCysGluLysIleLeuProTxpLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gggattiggttatigtgttaaatgccagcaatacctgtcaaagcctgacttatccccaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysBroAspPheIleProGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACCCGAATTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGGTTTGCTGAGTTCTCTGTTGTTTCCCTTGGCCTCTGTGAAGGAAAATCCACTCTAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LysValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSerAspCysPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GI:13414708
                                                                                                                                                                                            (human)
                                                                                                                                                                                                                                                     mRNA
                                                                                                                                                                                                                                        CDNA clone IMAGE: 4650430
                                                                                                                            Gene Collection
                                                                                                                                                                                                                                                EST 21-MAR-2001
                                           ьe
                                                                                                                                                                                                                                                                                                                                 851
                                                                                                                                                                                                                                                                                                                                                                                            263
                                                                                                                                                                                                                                                                                                                                                                         791
                                                                                                                                                                                                                                                                                                                                                                                                               732
                                                                                                                                                                                                                                                                                                                                                                                                                                   243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              613
                                                                                                                                                                                                                                                                                                                                                                                                                                                        672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     313
```

```
ક
                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                           ঠ
                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                        ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                  Ş
                                                       밁
                                                                           ક
                                                                                                       밁
                                                                                                                                      ঠ
                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-109 (1-665) x BG482429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bource
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              No.:
                                                                                                                483
                                                                                                                                                                           423
                                                                                                                                                                                                       312
                                                                                                                                                                                                                                     363
                                                                                                                                                                                                                                                                                               303
                                                                                                                                                                                                                                                                                                                                                                                                                 183
                                                                                                                                                                                                                                                                                                                                                                                                                                              232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               w
                                                                                                                                                                                                                                                                                                                                                                                                                                  LysalaLysalaSerAsnGlyCysValLeuValHisCysLeuAlaGlyIleSerArgSer
                  GluAspSerProLeuValGlnAlaLeuSerGlyLeuHisLeuSerAlaAspArgLeuGlu
                                                                      GlnArgProValHisProAlaSerValProSerValProSerValGlnProSerLeuLeu
                                                                                                                                    LysSerGluThrProLeuSerProProCysAlaAspSerAlaThrSerGluAlaAlaGly
                                                                                                                                                                                               LysLeuLeuHisLeuGluLysProAsnGluProValProAlaValSerGluGlyGlyGln
                                                                                                                                                                                                                                     CTGGACTATGAGAAGATTAAGAACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTC
                                                                                                                                                                                                                                                      LeuAspTyrGluLysLysIleLysAsnGlnThrGlyAlaSerGlyProLysSerLysLeu
                                                                                                                                                                                                                                                                                                                         ArgPheValLysGluLysArgProThrIleSerProAsnPheAsnPheLeuGlyGlnLeu
                                                                                                                                                                                                                                                                                                                                                                                   AlaThrIleAlaIleAlaTyrIleMetLysArgMetAspMetSerLeuAspGluAlaTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AsnAspSerPheCysGluLysIleLeuProTrpLeuAspLysSerValAspPheIleGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGCAATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerTyrThrCysProLysProAspPheIleProGluSerHisPheLeuArgValProVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGGACAGCCCGCTGGTACAGGCGCTCAGTGGGCTGCACCTGTCCGCAGACAGGCTGGAA
                                                                                                                                                                           AAGCTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTGCTCTCAGAGGGTGGACAG
                                                                                                                                                                                                                                                                                                                                                                                                                  ANAGCANANGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /clone="IMAGE:4650430"
/tlssue_type="choriocarcinoma"
/tlssue_type="choriocarcinoma"
/lab_host="DH10B (phage-resistant)"
/clone_lib="NIH_MGC_21"
/clone_lib="NIH_MGC_21"
/note="Organ: placenta; Vector: pOTB7; Site_1: XhoI;
/site_2: EcoRI; cDNA made by oligo-dT priming.
Site_site_1: ECORI; cDNA made by oligo-dT priming the prectionally cloned into EcoRI/XhoI sites using the following 5' adaptor: GGCACGAG(G). Size-selected >500bp for average insert size 1.8kb. Library constructed by Ling Hong in the laboratory of Gerald M. Rubin (University of California, Berkeley) using ZAP-cDNA synthesis kit (Stratagene) and Superscript II RT (Life Technologies)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.88e-108
1360.00
94.72%
92.74%
39.79%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (1-903)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    903
281
10
6
                           391
                                                                                    371
                                                                                                                  542
                                                                                                                                                                           482
                                                                                                                                                                                                                                                                   311
                                                                                                                                                                                                                                                                                                                                                                                                                                              251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      122
662
                                                         602
                                                                                                                                             351
                                                                                                                                                                                                        331
                                                                                                                                                                                                                                     422
                                                                                                                                                                                                                                                                                               362
                                                                                                                                                                                                                                                                                                                            291
                                                                                                                                                                                                                                                                                                                                                         302
                                                                                                                                                                                                                                                                                                                                                                                      271
                                                                                                                                                                                                                                                                                                                                                                                                                    242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOURCE
                                                                      Bource
```

```
REMARK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 8
BC038231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         903 A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            783
Clone distribution: MGC clone distribution information can be founthrough the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov Series: IRAK Plate: 79 Row: a Column: 12
This clone was selected for full length sequencing because it passed the following selection criteria: matched mRNA gi: 4758211
This clone has the following problem: frame shifted.

Location/Qualifiers
                                                                                                                                                                                                                                 Web site: http://www.nisc.nih.gov/
Contact: nisc_mgc@nhgri.nih.gov/
Akhter.N., Ayele,K., Beckstrom-Sternberg,S.M., Benjamin,B.,
Akhter.R., Bouffard,G.G., Breen,K., Brinkley,C., Brooks,S.,
Blakesley,R.W., Bouffard,G.G., Breen,K., Gupta,J., Haghighi,P.,
Blakesley,R.W., Bouffard,G.G., Breen,K., Gupta,J., Haghighi,P.,
Hansen,N., Ho,S.-L., Karlins,B., Kwong,P., Learic,P., Legaspi,R.,
Hansen,N., Ho,S.-L., Karlins,B., Kwong,P., Learic,P., Legaspi,R.,
Maduro,Q.L., Maskeilalo,C., Maskeri,B., Mastrian,S.D.,McCloskey,J.C.,
McDowell,J., Pearson,R., Stantripop,S., Thomas,P.J., Touchman,J.W.,
TBurgeon,C., Vogt,J.L., Walker,M.A., Wetherby,K.D., Wiggins,L.,
Young A Zhang,L., L., Jana Grace, P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Direct Submission
Submitted (30-SEP-2002) National Institutes of Health, Mammalian Gene Collection (MGC), Cancer Genomics Office, National Cancer Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: National Institutes of Health Intramural
Sequencing Center (NISC),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NIH-MGC Project URL: http://mgc.nci.nih.gov
Contact: MGC help desk
Email: cgapbs-remail.nih.gov
Tissue Procurement: ATCC/DCTD/DTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 2207)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens, Similar to IMAGE:5547764, mRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaithersburg, Maryland;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AspSerAsnLysLeuLysArgSerPheSerLeuAspIleLysSer-ValSerTyrSerAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGCATGGCAGCATCCCTTACATTGGCTTCATCCTCATCAGAAGAATGCTTTGGAATACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aSerMetAlaAlaSerLeuHis---GlyPheSerSerSerGluAsp-AlaLeuGluTyrT
|||||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACAGCAGTAAGCTCAAGCGTTCCTTCTCTCTGGATATCAAATCCAGTTTCATATTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCAGGAACTATCGGAAGACTCCCGAAACCAGTCCTGATAAGGGAAGGCATATCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACAAACCTTTCCACTTACTCTGGATTGCGACCAAGCAAGGTTATGCCAGTTCTCCCCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           yrLysPro-SerThr-ThrLeuAsp---GlyThrAsnLysLeuCysGlnPheSerProVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 468
                                                                                                                                                                                                                     Zhang, L.-H. and Green, E.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2207 k
> dual
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 å,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HTC 01-OCT-2002
se 8, clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     722
```

/mol_type= "max....9606" /db_xref="taxon:9606"

organism="Homo

/clone="IMAGE:5547764" /tissue_type="Skin, melanotic /clone_lib="NIH_MGC_72"

Alignment Scores: Fred. Not.: 1327.00 Secret. Similarity: 1327.00 Secret. Similarity: 1327.00 Secret. Similarity: 1327.00 Secret. Similarity: 1327.00 Secret. Similarity: 132.00 Secret. Similarity: 132.00 Secret. Similarity: 132.00 Secret. Similarity: 132.00 Secret. Similarity: 132.00 Secret. Similarity: 132.00 Secret. Similarity: 132.00 Secret. Similarity: 132.00 Secret. Similarity: 132.00 Secret. Similarity: 132.00 Secret. Similarity: 132.00 Secret. Similarity: 132.00 Secret. Similarity: 133.00 Secret. Similarity: 134.00 Secret. Similarity: 135.00 Secret. Similarity: 135.00 Secret. Similarity: 136.00 Secret. Similarity: 137.00 Secret. Similarity: 138.00 Secret. Similarity: 138.00 Secret. Similarity: 139.00 Secret. Similarity: 130.00 Secret	/lab_host="DH10B" /note="Vector: pCMV-SPORT6"
Db 1032 AMCTRICTGGGCCGCCCTCGGGCCGCCCCCGGGGGGCCCGGGGGCCCGGGGGG	OV 290 Typhography

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 9
BQ770036
                                                        Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
     US-10-029-345A-109 (1-665) x BQ770036 (1-862)
                                                                                                                                               Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             POCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                  ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1956 CTGGGCAAGCAGGCGAGCTTCTCGGGCAGCGTGGAGGTCATCGAGGTGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. Jim Lin, University of Iowa
cDNA Library preparation: Dr. M. Bento Soares, University of Iowa
cDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: MCC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
This clone was contributed by the Brain Molecular Anatomy Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 (bases 1 to 862)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      862 bp mRNA
UI-M-FIO-byt-o-24-0-UI.rl NIH BMAP FIO I
IMAGE:5702255 5', mRNA Bequence.
BQ770036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BQ770036.1 GI:21978510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ValGlySerGlnSerSerPheSerGlySerMetGluIleIleGluValSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MetGluPheGlyGluSerIleMetSerGluAsnArgSerArg---GluGluLeuGlyLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGGAGTTCGAGGAGGGC---ATGGTGGAGGGGCGCGCGCGCGAGGAGCTGGCCGCC 1955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  primer: pYX-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     musculus
                                                                                                                                                                                                              /tissue type="whole brain"
/dev stage="embryo 12.5dpc"
/lab_host="DH10B (TI phage resistant)"
/clone lib="NIH BMAP FIO"
/clone lib="NIH BMAP FIO"
/note="Organ: Brain; Tector: pYX- Asc; Site 1: EcoR I;
Site 2: Not I; The library was constructed according
Bonaldo, Lennon and Soares, Genome Research, 6:791-806,
1996. Denatured RNA was size fractionated on a 1% agarose
gel.First strand cDNA synthesis was primed with oligo-dT
grimer containing a Not I site. Double strand cDNA was
size selected according to mRNA size fraction, ligated
with EcoR I adaptor, digested with NotI and then cloned
directionally into pyX-Asc vector. The library tag
sequence located between the Not I site and the polyA tail
is CAGCCACGAC. This library was created for the University
Iowa Brain Anatomy Project (BMAP): 'Gene Discovery in the
Developing Mouse Nervous System', supported by National
Institute of Mental Health (NIMH), Hemin Chin, Ph.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. .862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /clone="IMAGE:5702255"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'strain="C57BL/6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ocation/Qualifiers
                                       9.45e-104
1306.00
92.04%
87.54%
38.21%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          _type="mRNA"
                                                                                                                                                                                                      coordinator.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chordata; (Rodentia;
                                                          Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gene
                                       253
113
119
2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Collection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EST 26-JUL-2002
CDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               648
                                                          VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                 RESULT 10
BU704078
                                                                                                                                                                                                                                        맑
                                                                                                                                                                                                                                                                       ş
                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                    맑
                                                                                                                                                                                                                                                                                                                                                                                                                   ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                 DEFINITION
                                                                                                                 ACCESSION
                                         ORGANISM
                                                                       BU704078 769 bp
UI-M-FO0-bzr-n-23-0-UI.rl NIH B
IMAGE:6406486 5', mRNA sequence
BU704078
BU704078.1 GI:23631836
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                        356
                                                                                                                                                                                                                                                                                                                776
                                                                                                                                                                                                                                                                                                                                                                                      725
                                                                                                                                                                                                                                                                                                                                                                                                                                                              899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 156 AsnIleGlyProThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             116 AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeu
Mus musculus
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                          Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                       HisProAlaSerValProSerValProSerValGlnProSerLeuLeuGluAspSerPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuGluLysProAsnGluProValProAlaValSerGluGlyGlyGlnLysSerGluThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GluLysArgProThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGlu
                                                                                                                                                                                                                                                                 LeuLysArgSerPheSerLeuAspIle
                                                                                                                                                                                                                                                                                                              LeuValGlnAlaLeuSerGlyLeuHisLeuSerAlaAspArgLeuGluAspSerAsnLys
                                                                                                                                                                                                                                                                                                                                                                                    ProLeuSerProProCysAlaAspSerAlaThrSerGluAlaAlaGlyGlnArgProVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LysLysI1eLysAsnGlnThrGlyAlaSerGlyProLysSerLysLeuLysLeuLeuHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAAAAAAGACCTACTATATCTCCGAATTTTAATTTTATGGGCCAACTCATGGACTATGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IleAlaTyrIleMetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SerAsnGlyCysValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CysGluLysIleLeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AsnLysGluLeuIleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CysGluGlyLysSerThrLeuValProThrCysIleSerGlnProCysLeuProValAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CACTOTOTOCACOTOCAGGTGGCTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTAGACAAACCCAGTGAGCCCGTGCCTGCAGCCTCAGAGGGCCGGATGGAAGAGTGCACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTGCCTACATCATGAAGAGGATGGACATGTCTCTAGATGAGGCTTACAGATTTGTGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGTGAGAAAATCCTACCATGGTTGGACAAGTCTGTGGATTTCATTGAGAAAGCAAAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AACAAGGACCTGATGCAACAGAATGGGATTGGCTATGTGTTAAATGCCAGCAATACCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGTGAAGGAAAGTCCACTCTAGTCCCTACCTGCATATCTCAGCCTTGCTTACCTGTTGCG
                                                          (house
                                                          mouse)
                                                                                                                                  TH BMAP_FOO!
   Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                            404
                                                                                                                                                 Mus
                                                                                                                                                 musculus
                                                                                                                                                                    linear
```

335

607 315 547 295 487 275 427 255 367 235 307 215 247 195 187

724 355

EST 15-JUL-2003 clone

```
Ś
                                                                                                 멍
                                                                                                                                       Ś
                                                                                                                                                                                  В
                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-029-345A-109 (1-665) x BU704078 (1-769)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                   186
                                                        173
                                                                                                                                         153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IE 1 (bases 1 to 769)

NIH-MGC http://mgc.nci.nih.gov/.

National Institutes of Health, Mammalian Gene Collection (MGC)

Unpublished (1999)

Contact: Robert Strausberg, Ph.D.

Email: cgapbs-remail nih.gov

Tissue Procurement: Dr. Jim Lin, University of Iowa
cDNA Library preparation: Dr. M. Bento Soares, University of Iowa
cDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:

http://image.llnl.gov
                                                                                                                                                                                    126
                                                                                                                                                                                                                             133
                                                                                                                                                                                                                                                                                                              113
                                                                                                                                                                                                                                                                        66
                                                                                                                                                                                                                                                                                                                                                                                                93
                                                                                                                                                                                                                                                                                                                                                         Φ
GATGTCCTCAACAAGGACCTGATGCAACAGAATGGGATTGGCTATGTGTTAAATGCCAGC
                        AspValLeuAsnLysGluLeuIleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSer 192
                                                                                 CCTGTTGCGAACATTGGGCCAACTCGAATTCTTCCCAATCTCTATCTTGGCTGCCAGCGA
                                                                                                            ProValAlaAsnIleGlyProThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArg 172
                                                                                                                                                                  CCTGGCCTCTGTGAAGGAAAGTCCACTCTAGTCCCTACCTGCATATCTCAGCCTTGCTTA
                                                                                                                                                                                             ProGlyLeuCysGluGlyLysSerThrLeuValProThrCysIleSerGlnProCysLeu
                                                                                                                                                                                                                                                                               LysSerPheAsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPhe
                                                                                                                                                                                                                                                                                                                                                                | GlnAspValAlaSerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGlu
                                                                                                                                                                                                                                                   AGGAGCTTCAACTCTGTCCACCTGCTTGCAGGTGGCTTTGCTGAGTTCTCTCGTTGTTTC
                                                                                                                                                                                                                                                                                                                                       CAAGATGTTGGTTCTCTGTCGTCAGACTGCTTTCTCACTGTACTTCTGGGTAAACTGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Seq primer: pYX-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /tissue type="whole brain"
/dev stage="embryo 12.5dpc"
/lab_host="DH10B (TI phage resistant)"
/clone lib="NIH BNAP FOO"
/clone lib="NIH BNAP FOO"
/note="Organ: Brain; Vector: pYX- Asc; Site 1: EcoR I;
Site 2: Not I; The library was constructed according
Bonaldo, Lennon and Soares, Genome Research, 6:791-806,
1996. Denatured RNA was size fractionated on a 1% agarose
gel. First strand cDNA synthesis was primed with oligo-dr
primer containing a Not I site. Double strand cDNA was
size selected according to mRNA size fraction, ligated
with BcoR I adaptor, digested with NotI and then cloned
directionally into pYX-Asc vector. The library tag
sequence located between the Not I site and the polyA tail
is TGACAGCC. This library was created for the University
Developing Mouse Nervous System', supported by National
Institute of Mental Health (NIMH), Hemin Chin, Ph.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        s clone was contributed by the Brain Molecular Anatomy Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /mol_type="mRNA"
/strain="C57BL/6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6.06e-96
1216.00
94.09%
90.16%
35.58%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          clone="IMAGE: 6406486"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               'db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        769
229
10
15
0
                                                                                 245
                                                                                                                                                                    185
                                                                                                                                                                                                           152
                                                                                                                                                                                                                                                      125
                                                                                                                                                                                                                                                                                              132
                                                                                                                                                                                                                                                                                                                                         65
```

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BI821804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Locus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               213
                                                                                                                                                                                                                                                  found through the I.M.A.G.E. Consortium/LINL http://image.llnl.gov Plate: LLAM11440 row: f column: 21
                                                                                                                                                                                                                                                                                                                                                                          Contact: Robert Strausberg, Ph.D. Email: Cgapbs-r@mail.nih.gov
Tissue Procurement: Life Technologies,
                                                                                                                                                                                                                                                                                                                                                                                                                              Bukaryota; Metazoa; Chordata; Craniata; V
Mammalla; Eutheria; Primates; Catarrhini;
1 (bases 1 to 836)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     193
                                                                                                                                                                                                                                                                                                   cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BI821804 836 bp mF 603035883F1 NIH_MGC_115 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BI821804.1 GI:15933354
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BI821804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTGCACTGTCTCAGTCCACCTCTGTGCAACTCGACCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SerGluThrProLeuSerProProCysAlaAspSerAlaThr 346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LeuLeuHisLeuGluLysProAsnGluProValProAlaValSerGluGlyGlyGlnLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGCTGCACCTAGACAAACCCAGTGAGCCCGTGCCTGCAGCCTCAGAGGGGCGGATGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACTATGAGAAGACGATTAATAACCAGACTGGAATGTCAGGGCCANAGAGCANACTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AspTyrGluLysLysIleLysAsnGlnThrGlyAlaSerGlyProLysSerLysLeuLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tttgtgaaagaaaaaagacctactatatctccgaattttaattttatgggccaactcatg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PheValLysGluLysArgProThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    actattéctattécctacatcatcaagaagaggatggacatgtctctagatgaggcttacaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ThrileAlaIleAlaTyrIleMetLysArgMetAspMetSerLeuAspGluAlaTyrArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCAAAAGCCTCCAATGGCTGTGTGCTTATCCACTGCTTAGCTGGGATCTCTCGCCTCCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AlaLysAlaSerAsnGlyCysValLeuValHisCysLeuAlaGlyIleSerArgSerAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACAGCTTTTGTGAGAAAATCCTACCATGGTTGGACAAGTCTGTGGATTTCATTGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AspSerPheCysGluLysIleLeuProTrpLeuAspLysSerValAspPheIleGluLys
                                                                                                                                                                                                                    quality sequence stop: 805.
Location/Qualifiers
/clone_lib="NIH_MGC 115"
/note="Organ: pooled brain, lung, testis; Vector:
/note="Organ: pooled brain, lung, testis; Vector:
pCMV-SPORT6; Site 1: Not1; Site 2: EcoRV (destroyed); RNA
source anonymous pool of 6 male brains, age range 23-27; 1
male lung, age 27; and 1 male testis, age 69. Library is
oligo-dT primed and directionally cloned (EcoRV site is
                                                                                                                                               /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                /clone="IMAGE:5176724"
/lab_host="DH10B"
                                                                                                                                                                                                       .836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chordata; Craniata; Vertebrata; E
Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mRNA linear EST 04-OCT-20
ns cDNA clone IMAGE:5176724 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                             Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EST 04-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       212
```

```
음 중
                                                                                                                                        S
                                                                                                                                                                            밁
                                                                                                                                                                                                  ક
                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                             ঠ
                                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ঠ
                                                                                                         밁
                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
Query Match:
                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-029-345A-109 (1-665) x BIB21804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment Scores:
                             309
                                                                                                                                                270
                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                     230
                                                                                                                                                                                                                                                                                                                             210
                                                                                                                                                                                                                                                                                                                                                                                                                                                     170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 CAAAGCTCCCAAGATGT-GCCTCTCTCTTCAGACTGTTTTCTCACTGTACTTCTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        70
                            erLysLeuLysLeuLeuHisLeuGluLysProAsnGluProValProAlaValSerGluG
                                                                          lyGlnLeuLeuAspTyrGluLysLysIleLysAsnGlnThrGlyAlaSerGlyProLysS
                                                                                                                                       AlaTyrArgPheValLysGlu-LysArgProThrIleSerProAsnPheAsnPheLeu-G
                                                                                                                                                                                                ArgSerAlaThrIleAlaIleAlaTyrIleMetLysArgMetAspMetSerLeuAspGlu
                                                                                                                                                                                                                                                          IleGluLysAlaLysAlaSerAsnGlyCysValLeuValHisCysLeuAlaGlyIleSer
                                                                                                                                                                                                                                                                                                                                                                                AsnAlaSerTyrThrCysProLysProAspPheIleProGluSerHisPheLeuArgVal
                                                                                                                                                                                                                                                                                                                                                                                                                                     CysGlnArgAspValLeuAsnLysGluLeuIleGlnGlnAsnGlyIleGlyTyrValLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProCysLeuProValAlaAsnIleGlyProThrArgIleLeuProAsnLeuTyrLeuGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ArgCysPheProGlyLeuCysGluGlyLysSerThrLeuValProThrCysIleSerGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LysLeuGluLysSerPheAsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlnSerSerGlnAspValAlaSerLeuSerSerAspCysPheLeuThrValLeuLeuGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGCATTCAGCGAAACATAAGGTTGACATTGA-TGCAGTCAGAAGGTTGTAGTTTACGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlnHisSerAlaLysHisLysValAspIleAspCysSerGlnLysValValValTyrAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CysSerLysLeuMetLysArgArgLeuGlnGlnAspLysValLeuIleThrGluLeuIle
GCTAAATCAAGCTGCTGCACCTGGG-AGAAGGCATATGAACTGTCCTGCTGTCTCAAAGG
                                                                                                                      GCTTACAGATTTGTGACAGAACAAGAGACCTACTATATCTCCAAACTTCAATTTTCTGGG
                                                                                                                                                                              CGCTCCGC-ACCATCGCTATCGC-TACATCATGAAGAGGATGGACATGTCTTTAGATGAA
                                                                                                                                                                                                                                                                                                                             ProValAsnAspSerPheCysGluLysIleLeuProTrpLeuAspLysSerValAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                       TGCCAGCGAGATGTCCTCAACAAGGAGCTGATGCAGCAGAATGGGATCGGTTATGTGTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGTAGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTTGGGGTTTGCTGAGTTCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           destroyed upon cloning). Average insert size 1.8 kb, insert size range 1-3 kb. Library is normalized and enriched for full-length clones and was constructed by Gruber (Invitrogen). Research Genetics tracking code 021. Note: this is a NIH_MGC Library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1e-92
1180.00
93.97%
92.20%
34.52%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (1-836)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
15
0
                             329
                                                                                                                                                                                                                                                                     249
                                                                                                                                                                                                                                                                                                                                229
                                                                                                                                                                                                                                                                                                                                                                                           209
                                                                                                                                                                                                                                                                                                                                                                                                                                                   189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                           775
                                                                                                                    716
                                                                                                                                                  289
                                                                                                                                                                               656
                                                                                                                                                                                                                                         598
                                                                                                                                                                                                                                                                                                   539
                                                                                                                                                                                                                                                                                                                                                              479
                                                                                                                                                                                                                                                                                                                                                                                                                       419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             <u>ب</u>
```

유 성

, N

US-10-029-345A-109 (1-665) x CF727177 (1-715)

Ś

107 LeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeuLeuAlaGlyGlyPheAla 126

ValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSerAspCysPheLeuThrVal 106

GTTTATGATCAAAGTTCCCAAGATGTTGGTTCTCTGTCGTCAGACTGCTTTCTCACTGTA

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 13
CF727177
                                            Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                           Query Match:
                                                                                                                         Pred.
                                                                                                                                           Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                    No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. James Lin University of Iowa
cDNA Library preparation: Dr. M. Bento Soares, University of Iowa
cDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
cDNA Sequencing by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: Distribution information can be found at
http://genome.uiowa.edu/distribution/mousefl.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CF727177
UI-M-HBO-ckj-j-09-0-UI.rl NIH_BMAP_HBO Mus
IMAGE:30548096 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CF727177
CF727177.1 GI:37601345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This clone was contributed by the Brain Molecular Anatomy Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ន្ត
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 715)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        primer: pYX-5
                                                                                                                                                                                                      /tissue type="whole eye"
//dev_stage="embryo 12.5,13.5,14.5 dpc"
/lab_host="PH108 (TI phage resistant)"
/clone lib="NIH BMAP HB0"
/clone lib="NIH BMAP HB0"
/note="Organ: Eye; Vector: pYX- Asc; Site 1: EcoR I;
Site 2: Not I; The library was constructed according
Bonaldo, Lennon and Soares, Genome Research, 6:791-806,
1996. Denatured RNA was size fractionated on a 1% agarose
gel.First strand cDNA synthesis was primed with Oilgo-dr
primer containing a Not I site .Double strand cDNA was
size selected according to mRNA size fraction ,ligated
with EcoR I adaptor , digested with NotI and then cloned
directionally into pYX-Asc vector . The library tag
sequence located between the Not I site and the polyA tail
is TTATTGAACT. This library was created for the University
Iowa Brain Anatomy Project (BMAP); 'Gene Discovery in the
Developing Mouse Nervous System', supported by National
Institute of Mental Health (NIMH)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /mol_type="mRNA"
/strain="C57BL/6"
/db_xref="taxon:10090"
/clone="IMAGE:30548096"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 location/Qualifiers
                      4.91e-90
1148.00
96.64%
93.70%
33.59%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mouse)
                                                                                         Length:
Matches:
                        Mismatches: Indels:
  Gaps:
                                                                        Conservative:
715
223
7
8
8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Collection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EST 09-OCT-2003
```

```
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                          RESULT 13
BE897795
LOCUS
                                                                                                                                                                                                                                                                                         VERSION
KEYWORDS
SOURCE
ORGANISM
                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                     뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     유 성 유 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     β Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            日
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            占
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                  Contact: Robert Strausberg, Ph.D.

Email: cgapbs remail.nih.gov

Tissue Procurement: ATCC/DCTP/DTP

CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Incyte Genomics, Inc.

Clone distribution: MGC clone distribution information can

found through the I.M.A.G.E. Consortium/LLNL at:

http://image.llnl.gov

Plate: LLAM9799 row: b column: 16

High quality sequence stop: 678.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               362
                                                                                                                                                                                                                                                                                                                                                                                                                                                       662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        62
                                                                                                                                                                                                  NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                 mRNA sequence.
BE897795
                                                                                                                                                                                                                                                                                                                                                                        BE897795
601438457F1 NIH_MGC_72
                                                                                                                                                                                                                                                                          Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                   BE897795.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProLysSerLysLeuLysLeuLeuHisLeuGluLysProAsnGluProValPro 324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuAspGluAlaTyrArgPheValLysGluLysArgProThrIleSerProAsnPheAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMetLysArgMetAspMetSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsnGlnThrGlyAlaSerGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGGATCTCTCGCTCCGCCACTATTGCTATTGCCTACATCATGAAGAGGATGGACATGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ValAspPheIleGluLysAlaLysAlaSerAsnGlyCysValLeuValHisCysLeuAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LeuArgValProValAsnAspSerPheCysGluLysIleLeuProTrpLeuAspLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TyrValLeuAsnAlaSerTyrThrCysProLysProAspPheIleProGluSerHisPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TyrLeuG1yCysG1nArgAspValLeuAsnLysG1uLeu11eG1nG1nAsnG1yI1eG1y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IleSerGlnProCysLeuProValAlaAsnIleGlyProThrArgIleLeuProAsnLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAGTCCACTCTAGTCCCTACCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GluPheSerArgCysPheProGlyLeuCysGluGlyLysSerThrLeuValProThrCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTAGATGAGGCTTACAGATTTGTGAAAGAAAAAAGACCTACTATATCTCCGAATTTTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTCATACCTGAATCTCACTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGACCTGATGCAACAGAATGGGATTGGC
                                                                                                                                                                                                                                             malia; Eutheria;
(bases 1 to 920)
                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                     GI:10363618
                                                                                                                                                                                                                                                            Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                            920
Homo 8
                                                                                                                                                                                                                                                                                                                                                                            0 bp 1
                                                                                                                                                                                                                                                            Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                            mRNA
s cDNA
                                                                                                                                                                                                                 Gene
                                                                                                                                                                                                                                                                                                                                                                              clone
                                                                                                                                                                                                                                                                                                                                                                              linear EST 20-OCT-2000
.one IMAGE:3923247 5',
                                                                                                                                                                                                                 Collection (MGC)
                                                                                                                              (LLNL)
                                                                                                 can
                                                                                                 bе
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Percent Similarity:
Best Local Similarity:
Query Match:
뮍
               Ş
                                                     밁
                                                                        Ś
                                                                                                             밁
                                                                                                                                 Ś
                                                                                                                                                                    ф
                                                                                                                                                                                            Ś
                                                                                                                                                                                                                              Ъ
                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                     δ.
                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                      문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-029-345A-109 (1-665) x BE897795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 No
                                                                                                               593
                                                                                                                                                                       533
                                                                                                                                                                                                  412
                                                                                                                                                                                                                                                                                       413
                                                                                                                                                                                                                                                                                                                    372
                                                                                                                                                                                                                                                                                                                                                 362
709
                                                      652
                                                                                452
                                                                                                                                          432
                                                                                                                                                                                                                                 473
                                                                                                                                                                                                                                                            392
                                                                                                                                                                                                                                                                                                                                                                            352
                                                                                                                                                                                                                                                                                                                                                                                                         302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N
                                                                                                                               oSerThrThrLeuAspGlyThrAsnLysLeuCysGlnPheSerProValGlnGluLeuSe
                                                                                                                                                                                                                                                                                                                                                                                                                       sSerGluThrProLeuSerProProCysAlaAspSerAlaThrSerGluAlaAlaGlyGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sLeuLeuHisLeuGluLysProAsnGluProValProAlaValSerGluGlyGlyGlnLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           uAspTyrGluLysLysIleLysAsnGlnThrGlyAlaSerGlyProLysSerLysLeuLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gPheValLysGluLysArgProThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aThrIleAlaIleAlaTyrIleMetLysArgMetAspMetSerLeuAspGluAlaTyrAr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AlaLysAlaSer-AsnGlyCysValLeuValHisCysLeuAlaGlyIleSerArgSerAl
                        nThrAlaArgProSerAspSerGlnSerLysArgLeuHisSerValArgThrSerSerSe
                                                                       rGluGlnThrProGluThrSerProAspLysGluGluAlaSerIleProLysLysLeuGl
||||||||||||||||
                                                                                                                                                                                      rMetAlaAlaSerLeuHisGlyPheSerSerSerGluAspAlaLeuGluTyrTyrLysPr
                                                                                                                                                                                                                                                pSerAsnLysLeuLysArgSerPheSerLeuAspIleLysSerValSerTyrSerAlaSe
                                                                                                                                                                                                                                                                                                           uAspSerProLeuValGlnAlaLeuSerGlyLeuHisLeuSerAlaAspArgLeuGluAs
                                                                                                                                                                                                                                                                                                                                                                           nArgProValHisProAlaSerValProSerValProSerValGlnProSerLeuLeuGl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTTGTGAAAGAAAAAAGACCTACTATATCTCCAAACTTCAATTTTCTGGGCCAACTCCT
                                                      GGAGCAGACTCCCGAA---
                                                                                                               TTCCACTACTCTGGATGGGACCAACAAGCTATGCCAGTTCTC-CCTGTCCAGGAACTATC
                                                                                                                                                                        CATGGCAGCATCCTTACATGGCTTCTCCTCATCAGAAGATGCTTTGGAATACTACAAACC
                                                                                                                                                                                                                               CAGCAATAAGCTCAAGCGTTCCTCTCTCTCGGATATCAAATCAGTTTCATATTCAGCCAG
                                                                                                                                                                                                                                                                                         GGACAGCCCGCTGGTACAGGCGCTCAGTGGGCTGCACCTGTCCGCAGACAGGCTGGAAGA
                                                                                                                                                                                                                                                                                                                                                   AAGGCCCGTGCATCCCGCC-----AGCGTGCCCAGCGTGCAGCCGTCGCTTAGA
                                                                                                                                                                                                                                                                                                                                                                                                         AAGCGAGACGCCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCTGCTGCACCTGGAGAAGCCAAATGAACCTGTCCCTGCTGTCTCAGAGGGTGGACAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGACTATGAGAAGAATTAAGAACCAGACTGGAGCATCAGGGCCAAAGAGCAAACTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CACCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCTTTAGATGAAGCTTACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCAAAAGCCTCCGGGTGGATGTGTTCTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /clone="IMAGE:3923247"
/tissue type="melanotic melanoma"
/lab_host="DH10B (phage-resistant)"
/clone_lib="NIH MGC_72"
/note="Organ: skin; Vector: pCMV-SPORT6; Site_1: NotI;
Site_2: SalI; Cloned unidirectionally. Primer: Oligo dT
Average insert size 2 kb. Library constructed by Life
Technologies."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7.36e-86
1102.50
89.30%
86.72%
32.26%
                                                      CCAGTCTGATAGGAGGAACGCAGCATCCCCAAGAAGGTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (1-920)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        920
235
7
19
11
GCAGCGATGGTTTCGGTCAA
```

753

472

452

592 432 532 412

159

472

392 412 372 361 352

301

241 312 181 292 121

```
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 14
BI816954/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VERSION
KEYWORDS
                       ş
 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                무
                                                         US-10-029-345A-109 (1-665) x BI816954
                                                                                                                 Percent Similarity:
Best Local Similarity:
                                                                                                                                                                             Alignment
                                                                                                                                                                                                          ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                               No.:
                                                                                                                                                                             Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Email: help@image.llnl.gov
This read has been verified (found to hit its original self in the correct orientation), as part of the I.M.A.G.E. Consortium quality control effort. High quality sequence is defined as having 100 or more base pairs with a phred quality value of 20 or greater, where a sliding window of 4 base pairs with a phred quality value of 15 or greater marks the beginning and end of the sequence. For information on obtaining this clone, please contact info@image.llnl.gov. effort.

Plate: LLAM9388 row: k column: 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Contact: Prange CK
The I.M.A.G.E. Consortium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         resequencing for verification Unpublished (2001) Other_ESTs: BG058779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Prange, C.K.
The I.M.A.G.E. Consortium quality control effort: clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalla; Butheria; Primates; Catarrhini; Hominidae; Homo.

1 (Dases 1 to 682)

Kale,P.I., Harsch,T.J., Folta,P.A., Nelson,D.O., Sanders,C.G. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           '682 bp mRNA linear EST 10-OCT imageqc 10 2000/slz410bdff41.xl Soares_NPBMC Homo sapiens cDNA clone IMAGE:4140798 3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BI816954.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lawrence Livermore National Laboratory
Livermore, CA, USA
                  AsnCysSerLysLeuMetLysArgArgLeuGlnGlnAspLysValLeuIleThrGluLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCCACAGGTGGCACGCCAGGTCCTTTCTCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rGlyThrAlaGlnArgSerLeuLeuSerPro
 AACTGTNCCCAGCTA---TAAGCGAAGGTGCAACAGGACAAAGTGTT-ATTACAGAGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              primer: -21ml3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 quality sequence stop: 682.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sapiens
                                                                                                                                                                                                                    3'); double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library is normalized; constructed in the laboratory of M. Bento Soares (University of Iowa)."
                                                                                                                                                                                                                                                                                               /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                          /tissue_type="lymphocyte"
/lab_host="DH10B (phage-resistant)"
/clone_lib="Soares_NPBMC"
                                                                                                                                                                                                                                                                                                                                                                                                       clone="IMAGE:4140798"
                                                                                       1.12e-84
1086.50
96.89%
95.11%
31.79%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GI:15911639
                                                                                  Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                         (1-682)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           502
                                                                                     682
214
6
2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EST 10-OCT-2001
                                                                                                                                                                                         REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                          RESULT 15
CF532917
LOCUS
                                                                                                                                                               JOURNAL COMMENT
                                                                                                                                                                                                                                                                   SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
FEATURES
                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   269 GluAlaTyrArgPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         69
                                                                                                                                                                                                                                                                                                                                                                                                                                       17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                77
                                                                                                                                                                                                                                                                                                CF532917
CF532917.1
EST.
                                                                                                                                                                        Mammalia; Eutheria; Rodentia; St
1 (bases 1 to 656)
NIH-MGC http://mgc.nci.nih.gov/
National Institutes of Health, I
Unpublished (1999)
          Seq primer: pYX-5
                                                                                                                                                                                                                                                                    Mus musculus
                                                                                                                                                                                                                                                                                 Mus musculus
                                                                                                                                                               Contact: Robert Strausberg, Ph.D.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                GI:34584885
                                                                                                                                                                                                                                                                                 (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   273
```

```
CF532917 656 bp mRNA
UI-M-GH0-cgw-n-02-0-UI.rl NIH_BMAP_GH0 Mus
IMAGE:30357529 5', mRNA sequence.
                   Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. Jim Lin, University of Iowa
cDNA Library preparation: Dr. M. Bento Soares, University of Iowa
cDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
cDNA Sequencing by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: Distribution information can be found at
http://genome.uiowa.edu/distribution/mousefl.html
                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; I
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GlyLysLeuGluLysSerPheAsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerArgSerAlaThr1leAlaIleAlaTyr1leMetLysArgMetAspMetSerLeuAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PheIleGluLysAlaLysAlaSerAsnGlyCysValLeuValHisCysLeuAlaGlyIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ValProValAsnAspSerPheCysGluLysIleLeuProTrpLeuAspLysSerValAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LeuAsnAlaSerTyrThrCysProLysProAspPheIleProGluSerHisPheLeuArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlyCysGlnArgAspValLeuAsnLysGluLeuIleGlnGlnAsnGlyIleGlyTyrVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GlnProCysLeuProValAlaAsnIleGlyProThrArgIleLeuProAsnLeuTyrLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerArgCysPheProGlyLeuCysGluGlyLysSerThrLeuValProThrCysIleSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GATCAAAGCTCCCAAGATGTTGCCTCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AspGlnSerSerGlnAspValAlaSerLeuSerSerAspCysPheLeuThrValLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IleGlnHisSerAlaLysHisLysValAspIleAspCysSerGlnLysValValTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATGCAGCAGAATGGGATTGGTTATGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACCCGAATTCTTCCCCAATCTTTATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATC
is clone was contributed by the Brain Molecular Anatomy Project
                                                                                                                                                                                                                                                                                                        Mammalian Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                           Collection
                                                                                                                                                                                                                                                                                                                                                                                                  Euteleostomi; ; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EST 12-SEP-2003 CDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                     Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    558
```

source

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                              Ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-029-345A-109 (1-665) x CF532917 (1-656)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      No.:
    483
                                        175
                                                                                423
                                                                                                                       155
                                                                                                                                                                 363
                                                                                                                                                                                                       135
                                                                                                                                                                                                                                              303
                                                                                                                                                                                                                                                                                      115
                                                                                                                                                                                                                                                                                                                              243
                                                                                                                                                                                                                                                                                                                                                                                                             183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              123
                                                                                                                                                                                                                                                                                                                                                                     95
                                                                                                                                                                                                                                                                                                                                                                                                                                                     75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ω
5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ω
                       aAsnIleGlyProThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLe
                                                                                                                                                                                      uCysGluGlyLysSerThrLeuValProThrCysIleSerGlnProCysLeuProValAl
                                                                                                                                                                                                                                                CAACTCTGTCCACCTGCTTGCAGGTGGCTTTGCTGAGTTCTCTCGTTTTCCCTGGCCT
                                                                                                                                                                                                                                                                                                                                                                                                           TAAGGTTGACATTGACTGCAATCAGAAGGTGGTAGTTTATGATCAAAGTTCCCCAAGATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sArgArgLeuGlnGlnAspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHi 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ValAlaLeuLeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgPro-PheVa
CAACAAGGACCTGATGCAACAGAATGGGATTGGCTATGTGTTAAATGCCAGCAATACCTG
                                                                              GAACATTGGGCCAACTCGAATTCTTCCCAATCTCTATCTTGGCTGCCAGCGAGATGTCCT
                                                                                                                                                                                                                                                                                                                              TGGTTCTCTGTCGTCAGACTGCTTTCTCACTGTACTTCTGGGTAAACTGGAGAGGAGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGAAGGTTGCAACAGGACAAAGTATTAATTACAGAACTTATCCAACATTCTGCAAAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  lGluTyrAsnThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTGGCTCTGCTGGAAAGTGGAAAAAAAGTGCTGCTAATTGATAGCCGACCATTTTGT
                                                                                                                                                               CTGTGAAGGAAAGTCCACTCTAGTCCCTACCTGCATATCTCAGCCTTGCTTACCTGTTGC
                                                                                                                                                                                                                                                                       eAsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLe
                                                                                                                                                                                                                                                                                                                                                                                                                                    sLysValAspIleAspCysSerGlnLysValValTyrAspGlnSerSerGlnAspVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGAATACAATACGTCTCACATTTTGGAAGCCATTAATATCAACTGCTCCCAAACTGATGAA
                                                                                                                                                                                                                                                                                                                                                    lAlaSerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /clone=IMAGE:3035/529"
/clone=IMAGE:3035/529"
/tissue_type="Whole brain"
/dev_stage="1,5, and 15 days newborn"
/lab_host="DH10B (T1 phage resistant)"
/clone_lib="WIH BWAP_GH0"
/clone_lib="WIH BWAP_GH0"
/clone_lib="WIH BWAP_GH0"
/clone_lib="WIH BWAP_GH0"
/note="Torgan: BTain; Vector: pXY- Asc; Site_1: EcoR I;
site_2: Not I; The library was constructed according
Bonaldo, Lennon and Soares, Genome Research, 6:791-806,
1996. Denatured RNA was size fractionated on a 1% agarose
gel. First strand cDNA synthesis was primed with oligo-dT
primer containing a Not I site. Double strand cDNA was
size selected according to mRNA size fraction, ligated
with EcoR I adaptor, digested with NotI and then cloned
directionally into pXX-Asc vector. The library tag
sequence_located_between the Not I site and the polyA tail
is CGAACTGAAT. This library was created for the University
Iowa Brain Anatomy Project (BMAP): 'Gene Discovery in the
Developing Mouse Nervous System', supported by National
Institute of Mental Health (NIMH), Hemin Chin, Ph.D.,
program coordinator."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Mus musculus"
/mol_type="mRNA"
/strain="C57BL/6"
/db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3.18e-84
1081.00
98.60%
96.74%
31.63%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  135
                                                                                                                                                                                                                                                                                                                                                                     115
                                        195
                                                                                                                       175
                                                                                                                                                                                                     155
                                                                                                                                                                                                                                                                                                                                                                                                                                                   95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 35
542
                                                                              482
                                                                                                                                                               422
                                                                                                                                                                                                                                                362
                                                                                                                                                                                                                                                                                                                              302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   55
                                                                                                                                                                                                                                                                                                                                                                                                           242
```

Ś

δ

밁 S B Ş 유 밁 5 밁 δ

```
5
                                    Ър
밁
                                                    S
603
                 215
                                      543
                                                        195
                                     SProLysProAspPheIleProGluSerHisPheLeuArgValProValAsnAspSerPh
          eCysGluLysIleLeuProTrpLeuAspLysSerValAspPhe
TTGTGAGAAAATCCTACCATGGTTGGACAAGTCTGTGGATTTC
 645
                   229
                                       602
                                                         215
```

Search Job tim rch completed: June 21, time : 4997.03 secs 2004, 23:33:27

```
Regult
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                         Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                       Score
                                                                                                          3406
3406
3406
3406
3406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                     Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1163542 segs,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-029-345A-109
3418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Published Applications AA:*

1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*

2: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*

3: /cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*

4: /cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*

5: /cgn2_6/ptodata/1/pubpaa/PCTUS_PUBCOMB.pep:*

6: /cgn2_6/ptodata/1/pubpaa/PCTUS_PUBCOMB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               June 21, 2004, 13:19:48 ; Search time 57.0786 Seconds
                       MAHEMIGTQIVTERLVALLE.....LGKVGSQSSFSGSMEIIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                          /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*
/cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US09_NEW_PUB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10A_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10A_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10C_NEW_PUB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10C_NEW_PUB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10C_NEW_PUB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10C_NEW_PUB.pep:*
                                                                                                                                                                                                                                                                                       Length
     GenCore version 5.1.6 (c) 1993 - 2004, Compugen Ltd.
                                                                                                                                                                                                                                                                                         멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 282313646 residues
       1221122122
2 US-10-072-012-680

2 US-10-168-506-14

2 US-10-343-357-7

5 US-10-377-072-26

6 US-10-257-026-2

5 US-10-648-593-247

1 US-10-648-593-247

2 US-10-648-593-247

2 US-10-648-593-247

2 US-10-648-593-247

3 US-10-072-012-679

2 US-10-072-012-681

2 US-10-094-749-2312

US-10-072-012-258
                                                                                                                                                                                                                                                    US-09-816-494-2
                                                                                                                                                                                                                                                                                       ij
                                                                                                                                                                                                                                                                                                                                          SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (without alignments)
3289.124 Million cell updates/sec
            Sequence 2, Appli
Sequence 2, Appli
Sequence 14, Appl
Sequence 14, Appl
Sequence 26, Appli
Sequence 26, Appli
Sequence 27, Appli
Sequence 240, App
Sequence 247, App
Sequence 679, App
Sequence 679, App
Sequence 54204, App
Sequence 54204, App
Sequence 54204, App
Sequence 681, App
Sequence 2312, App
                                                                                                                                                                                                                                                                                     Description
```

45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	١
453	453	453	453	453	466.5	469	469	469	469	619	619	654.5	654.5	654.5	654.5	654.5	654.5	732.5	807	917	1075.5	1297	1302	1326	2500	2721.5	2930	3079.5	3358.5	}
13.3	13.3	13.3	13.3	13.3	13.6	13.7	13.7	13.7	13.7	18.1	18.1	19.1	19.1	19.1	19.1	19.1	19.1	21.4	•	•	31.5	•	38.1	38.8	73.1	79.6	85.7	90.1	98.3	
394	394	394	394	394	381	482	482	482	444	155	155	170	170	170	170	170	169	461	155	501	616	253	663	625	517	677	672	660	680	
14	12	φ	ø	9	14	16	14	12	9	9	9	14	14	12	9	9	14	12	9	12	12	15	12	12	ø	12	12	12	12	
US-10-017-754-805	US-10-283-017-805	US-09-849-626-805	US-09-902-941-805	US-09-736-457-805	US-10-184-832-2	US-10-648-593-164	US-10-346-356-2	US-10-058-270A-130	US-09-964-899-47	US-09-955-732-6	US-09-964-277-6	US-10-405-808-16	US-10-314-058-14	US-10-655-073-16	US-09-847-519A-11	US-09-775-925-26	US-10-346-356-15	US-10-072-012-701	US-09-964-277-7	US-10-072-012-702	US-10-072-012-266	US-10-108-260A-4872	US-10-072-012-700	US-10-072-012-699	US-09-964-277-21	US-10-072-012-683	-10-296-115	-10-072-012-	US-10-072-012-256	
	e 805,	805,	Sequence 805, App	805,	Sequence 2, Appli	16,	'n	e 130	47	6	,0	16	14	e 16,	11,	Sequence 26, Appl	Sequence 15, Appl	O		7		4872,	700,	e 69	21,	683,	12			

ALIGNMENTS

```
GENERAL INFORMATION:
APPLICANT: Meyers, Rachel A.
TITLE OF INVENTION: 38692 AND 21117, NOVEL DUI
TITLE OF INVENTION: PHOSPHATASE MOLECULES AND
TITLE OF INVENTION: PHOSPHATASE MOLECULES AND
FILE REFERENCE: 10448-030002
CURRENT APPLICATION NUMBER: US/09/816,494
CURRENT FILING DATE: 2001-03-23
PRIOR APPLICATION NUMBER: US 60/191,858
PRIOR PILLING DATE: 2000-03-24
                                            밁
                                                                                      Ś
                                                                                                                                           밁
                                                                                                                                                                                á
                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 1
US-09-816-494-2
                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQ ID NOS: 10
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 2
LENGTH: 665
TYPE: PRT
ORGANISM: Homo mapiens
S-09-816-494-2
                                                                                                                                                                                                                                                                                                                             Query Match 99.6%;
Best Local Similarity 99.7%;
Matches 663; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 2, Application US/09816494
Patent No. US20020034807A1
                                                                          121 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLFVANIGFTRILFNLYLGCQRDVLNKELI 180
181 QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV 240
                                               121 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                           61 DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                      61 DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                             1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININGSKLMKRRLQQ
                                                                                                                                                                                                                                      1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                             Score 3406; DB 9; Length 665; Pred. No. 4.6e-250; 1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AND USES THEREFOR
                                                                                                                                                                                                                                                                                                                                  <u>.</u>
                                                                                                                                                                                                                                                                                                                                     Gaps
                                                 180
                                                                                                                                             120
                                                                                                                                                                                            120
                                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                                      60
```

300

```
Sequence 2, Application US/09964277

Patent No. US20020137170A1

GENERAL INFORMATION:
APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
ITITLE OF INVENTION: DSS-16 DUAL-SPECIFICITY PHOSPHATASE
FILE REFERENCE: 2001-55, 434

CURRENT APPLICATION NUMBER: US/09/964,277

CURRENT FILING DATE: 2001-09-25

NUMBER OF SEQ ID NOS: 22

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 2

LENGTH: 665
TYPE: PRT
ORGANISM: Homo sapiens
                            S
                                                        맑
                                                                               Ş
                                                                                                              뭐
                                                                                                                                        Ş
                                                                                                                                                                    밁
                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 2
US-09-964-277-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                            Query Match
Best Local S
Matches 663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뮰
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                            181
                                                        121
                                                                                  121
                                                                                                              61
                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                    _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                 \vdash
                                                                                                                                                                                                                                     h 99.6%;
Similarity 99.7%;
                                              LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
    QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                       MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                      DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                             MAHEMIGTQI VTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OKPSDRADSRRSWHEESPFEKQFKRRSCOMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARDSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPFCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISDNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       665
                                                                                                                                                                                                                       Score 3406; DB 9;
Pred. No. 4.6e-250;
1; Mismatches 1;
                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                  665;
                                                                                                                                                                                                                      0
                                                                                                                                                                                                                    Gaps
                    240
                                                 180
                                                                          180
                                                                                                                                                              60
                                                                                                       120
                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                    0
APPLICANT: Lepley, Denise M.
APPLICANT: Lepley, Daniel K.
APPLICANT: Rieger, Daniel K.
APPLICANT: Rieger, Daniel K.
APPLICANT: Burgess, Catherine E.
TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Sam
FILE REFERENCE: 21402-258
CURRENT APPLICATION NUMBER: US/10/072,012
CURRENT FILING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: 60/265,102
PRIOR FILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR FILING DATE: 2001-01-31
                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: Stytek, Ki.
APPLICANT: Stytek, Ki.
APPLICANT: Serhusen,
APPLICANT: Patturajan
APPLICANT: Shimkets,
APPLICANT: Li, Li,
APPLICANT: Gangoll,
APPLICANT: Gangoll,
APPLICANT: Anderson,
APPLICANT: Anderson,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-072-012-680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       $
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 680, Application US/10072012 Publication No. US20040033493A1
                                                                                                                                                                                      APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                               APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                   APPLICANT
                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                  Colman, Steven D.
Wolenc, Adam R.
Pena, Carol E. A.
Furtak, Katarzyna
Grosse, William M.
Alsobrook II, John F
                                                                                                                                                                                                                                                                       Rastelli, Luca
Miller, Charles E.
Gerlach, Valerie
Taupier Jr, Raymond :
Gusev, Vladimir Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                               Patturajan, Meera
Shimkets, Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LVHCLAGISRSATIAIAYIMKKMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                               Spytek, Kimberly
Zerhusen, Bryan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Velizar
                                                                                                                                                                                      ש
                                                                                                                                                                                                                                                                                      ď
```

밁

199

IIEVS

```
밁
                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                            ş
                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                              문
                                                                                                                                                                                                                                                                                                                                                                                                              ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOPTWARE: PatentIn Ver. 2
SEQ ID NO 680
LENGTH: 665
TYPE: PRT
ORGANISM: Homo BapienB
                                                밁
                                                                             δ
                                                                                                                 밁
                                                                                                                                       δ
                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-072-012-680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR FILING DATE: 2001-02-05
PRIOR APPLICATION NUMBER: 60/267,057
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR FILING DATE: 2001-02-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Remaining Prior Application data removed - NUMBER OF SEQ ID NOS: 1391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JR APPLICATION NUMBER: 60/265,412

R FILING DATE: 2001-01-31

JR APPLICATION NUMBER: 60/265,395

R FILING DATE: 2001-01-31

OR APPLICATION NUMBER: 60/266,406

OR FILING DATE: 2001-02-02

OR APPLICATION NUMBER: 60/266,767

R APPLICATION NUMBER: 60/266,767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                 541
                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                 661
                                                 601
                                                                                                                                              541
                                                                                                                                                                                  481
                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  663;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                   PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                      SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                 QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                  LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                 QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                               SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                SDILAPOTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                               SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                     SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                  QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                             QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 3406; DB 12;
Pred. No. 4.6e-250;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   See File Wrapper or PALM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                . 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                 660
                                                                                660
                                                                                                                 600
                                                                                                                                                600
                                                                                                                                                                                 540
                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
```

```
S
                                                          밁
                                                                                     Ś
                                                                                                                    밁
                                                                                                                                                 δ
                                                                                                                                                                                  밁
                                                                                                                                                                                                             5
                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; TYPE: PRT ; ORGANISM: Homo sapiens US-10-168-506-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn Ver.
SEQ ID NO 14
LENGTH: 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 14, Application US/10168506
Publication No. US20040053229A1
GENERAL INFORMATION:
APPLICANT: PLOWMAN, GREGORY D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: FLANAGAN, PETER
TITLE OF INVENTION: MAMMALIAN PROTEIN PHOSPHATASES
FILE REFERENCE: 038602/1351
CURRENT APPLICATION NUMBER: US/10/168,506
CURRENT FILING DATE: 2002-06-21
PRIOR APPLICATION NUMBER: PCT/US00/34736
PRIOR APPLICATION NUMBER: PCT/US00/34736
PRIOR FILING DATE: 2000-12-21
NUMBER OF SEQ. ID NOS: 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
541
                           541
                                                          481
                                                                                         481
                                                                                                                       421
                                                                                                                                                   421
                                                                                                                                                                                  361
                                                                                                                                                                                                                361
                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        663; Conservative
                SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQYYSVRRR 600
                                                                                                                                                                                                                                            LVHCLAGISRSATIAIAYIMKRMDMSLDBAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DKYLITELIQHSAKHKYDIDCSQKVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                            SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                         SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                      QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                       SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                  PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                       PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                           LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                        QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                      LAGGFAEFSRCFFGLCEGKSTLVFTCISQFCLFVANIGFTRILFNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WHYTE, DAVID
MANNING, GERARD .
SUDARSANAM, SUCHA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MARTINEZ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HILL, RON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99.6%;
99.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RICARDO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 3406; DB 12;
Pred. No. 4.6e-250;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
 600
                                                           540
                                                                                                                       480
                                                                                                                                                      480
                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                     420
                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
```

Ş В

Ъ 5

601

```
APPLICANT: HICKTEM GENOMICS, INC.; TANG, Y.Tom APPLICANT: ELLIOTT, Vicki S.; RAMKUMAK, Jayalaxmi APPLICANT: YAO, Monique G.; BURFORD, Neil APPLICANT: YAO, Monique G.; BURFORD, Neil APPLICANT: WANG, Yumei E.; STEWMART, Elizabeth A. APPLICANT: GANDHI, Ameena R.; ARVIZU, Chandra S. APPLICANT: LU, Dyung Aina M.; TRIBOULEY, Catherine M. APPLICANT: YUE, Henry; WARREN, Bridget A. APPLICANT: NGUYEN, Danniel B.; CHAWLA, Mariah R. APPLICANT: NGUYEN, Danniel B.; CHAWLA, Narinder K. APPLICANT: REARNEY, Liam TITLE OF INVENTION: PROTEIN PHOSPHATASES FILE REFERENCE: PI-0173 PCT CURRENT FILING DATE: 2003-01-28 PRIOR APPLICATION NUMBER: US/10/343,357 PRIOR APPLICATION NUMBER: US/60/221,679 PRIOR APPLICATION NUMBER: US/60/221,679 PRIOR APPLICATION NUMBER: US/60/223,272 PRIOR PRILING DATE: 2000-09-08

PRIOR PILING DATE: 2000-09-08

PRIOR APPLICATION NUMBER: US/60/223,272

PRIOR APPLICATION NUMBER: US/60/223,272

PRIOR PILING DATE: 2000-08-03

PRIOR PILING DATE: 2000-08-09

PRIOR APPLICATION NUMBER: US/60/224,309

PRIOR APPLICATION NUMBER: US/60/226,728

PRIOR APPLICATION NUMBER: US/60/226,728

PRIOR APPLICATION NUMBER: US/60/226,728

PRIOR APPLICATION NUMBER: US/60/226,728

PRIOR APPLICATION NUMBER: US/60/226,728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; NUMBER OF SEQ II
; SOFTWARE: PERL I
; SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 663; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 5
US-10-343-357-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: US 6
PRIOR FILING DATE: 2000-08-30
PRIOR APPLICATION NUMBER: US 6
PRIOR FILING DATE: 2000-09-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: misc_feature
OTHER INFORMATION: Incyte ID No. US20040058341A1 7480570CD1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 665
TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 7, Application US/10343357 Publication No. US20040058341A1
                                                181 QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                121 LAGGFABFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                        121
                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                  سر
                                                                                                                                                                                                                                                                                                                                                                                   μ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   601
                    QQNGIGYVLNASNTCPKPDFİPESHFLRVPVNDSFCEKİLPWLDKSVDFİEKAKASNGCV
                                                                                                                                          LAGGFAEFSRCFFGLCEGKSTLVPTCISQPCLFVANIGFTRILFNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                                                      DKYLITELIQHSAKHKVDIDCSQKVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL 120
                                                                                                                                                                                                            DKVLÍTELÍOHSÁKHKVDÍDCSOKVVVÝDOSSODVASLSSDČTLTVLLGKLEKSTNSVHL
                                                                                                                                                                                                                                                                                                                                          MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                         mahemi groi v ter Lvalles grek vllids r peve yntshileain in csklwkrido
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QKPSDRADSRRSWHEESFFEKQFKRRSCOMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OKPSDRADSRRSWHEESPFEKOFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ID NOS: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000-08-18
NUMBER: US 60/229,254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             665
                                                                                                                                                                                                                                                                                                                                                                                                                                           99.6%;
99.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60/231,366
                                                                                                                                                                                                                                                                                                                                                                                                          Score 3406; DB 12;
Pred. No. 4.6e-250;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3
                                                                                                                                                                                                                                                                                                                                                                                                          <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                  240
                                                                                                                180
                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     660
       RESULT 6

US-10-377-072-26

Sequence 26, Application US/10377072

Publication No. US20040009501A1

GENERAL INFORMATION:

APPLICANT: Millennium Pharmaceuticals Inc.

APPLICANT: Millennium Pharmaceuticals Inc.

APPLICANT: Logan, Thomas Joseph

APPLICANT: Logan, Thomas Joseph

APPLICANT: Millenson, Mark J.

APPLICANT: Millenson, Mark J.

APPLICANT: Millenson, Mark J.

APPLICANT: Williamson, Mark J.

APPLICANT: Williamson, Mark J.

APPLICANT: Williamson, Mark J.

APPLICANT: Millenson, Mark J.

APPLICANT: Rudolph-Owen, Laura A.

APPLICANT: Stai, Fong-Ying

APPLICANT: Stai, Fong-Ying

ITILE OF INVENTION: NOVEL 25869, 25934, 26335, 50365, 211

ITILE OF INVENTION: AND USES THEREFOR

FILE REFERENCE: MPIO3-0180MNIM

CURRENT APPLICATION NUMBER: US 09/895, 860

PRIOR APPLICATION NUMBER: US 09/895, 860

PRIOR APPLICATION NUMBER: US 60/215,370

PRIOR APPLICATION NUMBER: US 60/215,370

PRIOR APPLICATION NUMBER: US 60/187,455

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICATION NUMBER: US 09/843,297

PRIOR APPLICAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241 LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNENFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QKPSDRADSRRSWHEESPFEKQFKRRSCOMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OKPSDRADSRRSWHEESPFEKOFKRRSCOMEFGESIMSENRSREELGKVGSOSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SKRLHSVRTSSSGTÁQRSLLSÞLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SDĪLAPQTŠTPSLTSŠWYPATESSHPYSASATYGGSASYSAYSCSOLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sssedaleyykpstyldgynklogpspygelsegtpetspokeeasipkklotarpsosg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PSVPSVQPŠILEDSPLVQALSCIHLSADRLEDSNKLKRSFSLDIKSVSVSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LVHCLAGIŚRŚATIAIAYIMKRMDMSLDBAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            665
  SD
09/815,419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  49931 AND 49933 MOLECULES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
```

밁 Ś 뭐 Ś 밁 Ş 닭 Ş

```
음 성
                                                                                                                                                                        문
                                                                                                                                                                                               6 유
                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                    ঠ
                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                             ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                         RESULT 7
US-10-257-026-2
                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; ORGANISM: Homo US-10-377-072-26
Sequence 2, Application US/10257026
Publication No. US20040086859A1
GENERAL INFORMATION:
APPLICANT: Marck Patent GmbH
TITLE OF INVENTION: New dual specificity phosphatase
FILE REFERENCE: DUSP10KDWS
CURRENT APPLICATION NUMBER: US/10/257,026
CURRENT FILING DATE: 2003-11-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR FILING DATE: 2001-03-22
Remaining Prior Application data remov NUMBER OF SEQ ID NOS: 114
SOFTWARE: FastSEQ for Windows Version SEQ ID NO 26
LENGTH: 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 663; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 665
TYPE: PRT
                                                                                                                                                                                  601
                                                                                                                                                                                                       601
                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ۲
                                                                                                                                                         IIEVS
                                                                                                                                                                                              QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                             SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                         SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                        SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                      SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                   SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                               PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                            QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                         QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DKYLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                       IIEVS
                                                                                                                                                                                  QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                     SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEBASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                               QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LAGGEAEFSRCEPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                      599
                                                                                                                                                          665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 3406; DB 15;
Pred. No. 4.6e-250;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 removed -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 See
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 File
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wrapper
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                  660
                                                                                                                                                                                                                             600
                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                      ó99
                                                                                                                                                                                                                                                   600
                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                              RESULT 8
US-10-648-593-240
                                                                                                                                                                           5
                                                                                                                                                                                                      밁
                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                  र्
                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                           닭
                                                                                                                                                                                                                                                  문
                                                                                                                                                                                                                                                                                                                                           문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
```

```
; LENGTH: 665
; TYPE: PRT
; ORGANISM: Homo &
US-10-257-026-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQ ID NO:
SOFTWARE: PatentIn '
SEQ ID NO 2
LENGTH: 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 663; Conservative
                                                                                                                                                                                                                                                                 421
                          661
                                                         601
                                                                                     601
                                                                                                                  541
                                                                                                                                             541
                                                                                                                                                                            481
                                                                                                                                                                                                         481
                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                     241
661
                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                          IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCVQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                       QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                   OKPSDRADSRRSWHEESPFEKOFKRRSCOMEFGESIMSENRSREELGKVGSOSSFSGSME
                                                                                                                  SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAXSCSQLPTCGDQVYSVRRR
                                                                                                                                   SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLFTCGDQVYSVRRR
                                                                                                                                                                          SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                          SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                        SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                            QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                   LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLFVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                       SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                  PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                           QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                           665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99.6%;
99.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2.1

    Mismatches

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 3406; DB 16;
Pred. No. 4.6e-250;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                          660
                                                                                      660
                                                                                                                    600
                                                                                                                                                600
                                                                                                                                                                               540
                                                                                                                                                                                                           540
                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
```

Sequence 240, Application US/10648593

Publication No. US20040106132A1

GENERAL INFORMATION:

APPLICANT: Bristol-Myers Squibb Company

TITLE OF INVENTION: IDENTIFICATION OF GENES FOR PREDICTING ACTIVITY OF COMPOUNDS TITLE OF INVENTION: INTERACT WITH AND/OR MODULATE PROTEIN TYROSINE KINASES AND/O TITLE OF INVENTION: PROTEIN TYROSINE KINASE PATHWAYS IN BREAST CELLS FILE REFERENCE: D0273 NP

CURRENT APPLICATION UNMERR: US/10/648,593

CURRENT FILING DATE: 2003-08-26



```
RESULT 9

US-10-648-593-247

Sequence 247, Application US/10648593

Publication No. US20040106132A1

GENERAL INFORMATION:

APPLICANT: Bristol-Myers Squibb Company

TITLE OF INVENTION: INTERACT WITH AND/OR MODULATE PROTEIN TYROSINE KINASES AND/O

FILE REFERENCE: D0273 NP
                                                                                                                                                吊
                                                                                                                                                              á
                                                                                                                                                                                     밁
                                                                                                                                                                                                   S
                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: 60/406,385
PRIOR FILING DATE: 2002-08-27
NUMBER OF SEQ ID NOS: 557
SOFTWARE: Patentin version 3.2
SEQ ID NO 240
LENGTH: 665
TYPE: PRT
ORGANISM: Homo sapiens
US-10-648-593-240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G: ----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 663
                                                                                                                                              661
                                                                                                                                                                661
                                                                                                                                                                                   109
                                                                                                                                                                                                     601
                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       663;
                                                                                                                                            IIEVS
                                                                                                                                                        |||||
                                                                                                                                                                         ÓKPSDRADSRRSWHEESPFEKOFKRRSCOMEFGESIMSENRSREELGKVGSOSSFSGSME
                                                                                                                                                                                   OKPSDRADSRRSWHEESPFEKOFKRRSCOMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                              SDILAÞÓTSTÞSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSOLÞTCGDQVYSVRRR
                                                                                                                                                                                                                        SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    \vdash
                                                                                                                                                                                                                                                    ŚKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                        SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ 480
                                                                                                                                                                                                                                                                                                                                 PŚVPŚVQPŚLIEDŚPIVQALŚGI.HLSADRIEDŚNKI.KRŚPŚLDIKSVSYSAŚNAASI.HGF
                                                                                                                                                                                                                                                                                                                                            PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDTKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                      ÓTGASGÞKSKLKLLHLEKÞNEÞVÞÁVSEGGÓKSETÞLSÞÞCÁÐSÁTSBÁAGORÞVHÞÁSV
                                                                                                                                                                                                                                                                                                                                                                                   ĹVHĊĹĀĠÍŚRŚĀŤĨĄĨĀŸĨŃKRMDMŚĹDĒĀŸRFVKĒKRPŤĨŚDNPNFĽĠQĹĹĎŸĒKKĬKN
                                                                                                                                                                                                                                                                                                                                                                                                                        LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFYKEKRPTISDNENELGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                   QQNGÎGYVLNASNTĆPKPDFÎPESHFLRVPVNDSFCEKÎLPWLDKSVDFÎEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     pkyriterióhsakhkypipcsókyvykpóssóppyasréspcertentigkteksensyht
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                               QQNGIGYVINASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         laggfabésréféglébekstilvetélsőeclevánigetrilénlylgeórevlnkelm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MAHEMIGTOIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MAHEMIGTQIVTERLVALLESGTEKVLLIDSRÞÞVEYNTSHILEAININCSKLMKRRLQO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                            665
                                                                                                                                                              665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 3406; DB 16;
Pred. No. 4.6e-250;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                         660
                                                                                                                                                                                            660
                                                                                                                                                                                                               600
                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
RESULT 10
US-10-072-012-679
Sequence 679, Application US/10072012
Publication No. US20040033493A1
GENERAL INFORMATION:
APPLICANT: Tchernev, Velizar
APPLICANT: Spytek, Kimberly
APPLICANT: Serhusen, Bryan
                                                                                                                          Ś
                                                                                                                                                 밁
                                                                                                                                                              Ş
                                                                                                                                                                                  밁
                                                                                                                                                                                                    5
                                                                                                                                                                                                                          Ъ
                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                    멎
                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                               Ъ
                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
```

J

```
CURRENT APPLICATION NUMBER: US/10/648,59
CURRENT FILING DATE: 2003-08-26
PRIOR APPLICATION NUMBER: 60/406,385
PRIOR FILING DATE: 2002-08-27
NUMBER OF SEQ ID NOS: 557
SOFTWARE: PAtentin version 3.2
ENGUT: 65
TYPE: PAT
ORGANISM: Homo sapiens
US-10-648-593-247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches 663;
 661
                           661
                                                         601
                                                                                                                 541
                                                                                                                                                                        481
                                                                                                                                                                                                    481
                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
 IIEVS
                  IIEVS
                                                         OKESDRADSRRSWHEESPFEKOFKRSCOMEFGESIMSENRSREELGKVGSOSSFSGSME
                                                                                                 SDÍLAÞÓTSTÞSLÍTSSWYFATESSHFYSASAÍYGGSASYSAYSCSQLÞTCGDQVYSVRRR
                                                                                                                    SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                         SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                            SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSPLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ 480
                                                                                                                                                                                                                 SSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                        PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSVSASMAASLHGF
                                                                                                                                                                                                                                                                                           PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                               ÓTGASGÞKSKLIKLLHLEKÞNEÞVÞÁVSEGGQKSETÞLSÞÞCAÐSATSKAAGQRÞVHÞÁSV
                                                                                                                                                                                                                                                                                                                                                 QTGASGPKSKLKLLHLEKÞNEÞVÞAVSBGGQKSETÞLSÞÞCADSATSBAAGQRÞVHÞASV
                                                                                                                                                                                                                                                                                                                                                                                       LVHCLAGISKSATIAIAYIMKRMDMSLDEAYREVKEKRPTISDNENFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                        LVHCLAGISRSATIAIAYIMKRMDMSLDBAYRFYKEKRPTISBNENELGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGFTRILFNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                              QQNGIGYVLNASNTCPKPDFIPESHFLKVPVNDSPCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                               LAGGPAEPSRĆPPGLĆEGKSTLVPTĆISOPĆLPVANIGPTRILPNLYLGĆQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DKVLÍTELÍQHSÁKHKVDÍDCSQKVVVYDOSSQDVÁSLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DKYLITELIQHSAKHKYDIDCSQKYVYYDQSSQDVASLSSDCPLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEXNTSHILBAININGSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MAHEMIGTOIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    milarity 99.6%;
Conservative ;
665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 3406; DB 16;
Pred. No. 4.6e-250;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                     660
                                                                                                                             600
                                                                                                                                                         540
                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
```

```
APPLICANT: LEDICY, Denilse M...
APPLICANT: Rieger, Daniel K.
APPLICANT: Rieger, Catherine E.
TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Sam
FILE REFERENCE: 21402-258
CURRENT APPLICATION NUMBER: US/10/072,012
CURRENT FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,102
PRIOR FILING DATE: 2001-01-30
PRIOR PELICATION NUMBER: 60/265,514
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR PILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,406
PRIOR PILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,757
PRIOR APPLICATION NUMBER: 60/266,757
PRIOR APPLICATION NUMBER: 60/266,757
PRIOR APPLICATION NUMBER: 60/266,757
PRIOR APPLICATION NUMBER: 60/266,757
PRIOR APPLICATION NUMBER: 60/266,757
PRIOR APPLICATION NUMBER: 60/266,757
PRIOR APPLICATION NUMBER: 60/266,757
PRIOR APPLICATION NUMBER: 60/266,759
PRIOR PILING DATE: 2001-02-007
PRIOR APPLICATION NUMBER: 60/266,759
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING DATE: 2001-02-009
PRIOR PILING
                                                                                                                                                밁
                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                   밁
                  5
                                                               문
                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                               ; ORGANISM: Homo sapiens
US-10-072-012-679
                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Remaining Prior Application data removed -
NUMBER OF SEQ ID NOS: 1391
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 679
LENGTH: 690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PPLICANT
                                                                                                                                                                                                                                                                                                                                              Local Similarity
181 QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                 146
                                                                                        121 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                           663;
                                                                                                                                                86 DKVLITELIOHSAKHKVDIDCSQKVVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                           61
                                                                                                                                                                                                                                      26 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                 1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                               LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Colman, Steven D. Wolenc, Adam R. Pena, Carol E. A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alsobrook II, John P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Furtak, Katarzyna
Grosse, William M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gerlach, Valerie
Taupier Jr, Raymond
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Patturajan, Meera
Shimkets, Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gusev, Vladimir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Miller, Charles E.
                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Luca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Esha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Muralidhara
David W.
                                                                                                                                                                                                                                                                                                                                           99.6%;
                                                                                                                                                                                                                                                                                                                       Score 3406; DB 12;
Pred. No. 4.9e-250;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ٩.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    See File Wrapper or PALM.
                                                                                                                                                                                                                                                                                                                                                                  Length 690;
                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                         0;
                    240
                                                               205
                                                                                                          180
                                                                                                                                                    145
                                                                                                                                                                                           120
                                                                                                                                                                                                                                      85
                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 11
US-10-072-012-703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                      APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                     APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           266
```

```
241
                                                                                                                                                                                                                                                                                                                                              SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                        SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
IIEVS
                                                IIEVS
                                                                                                     QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                  QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                        SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                             SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                              SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                665
                                                                                                        685
                                                                                                                                                           660
                                                                                                                                                                                                           625
                                                                                                                                                                                                                                                           600
                                                                                                                                                                                                                                                                                                             565
                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                   505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
```

```
US-10-072-012-703
Sequence 703, Application US/10072012
Sequence 703, Application US/10072012
Sequence 703, Application US/10072012
Sequence 703, Application US/10072012
Sequence 703, Application US/10072012
Sequence 703, Application US/10072012
Applicant: Spinkere, Kimberly
Applicant: Spinkere, Bryan
Applicant: Spinkere, Richard
Applicant: Spinkere, Richard
Applicant: Padigaru, Muralidhara
Applicant: Adderson, David W.
Applicant: Adderson, David W.
Applicant: Adderson, David W.
Applicant: Adderson, David W.
Applicant: Gangolli, Luca
Applicant: Adderson, David W.
Applicant: Garelli, Luca
Applicant: Garelli, Valerie
Applicant: Garelli, Valerie
Applicant: Gumer, Carol E.
Applicant: Gumer, Adam R.
Applicant: Hurtak, Katarzyna
Applicant: Alsobrook II, John P.
Applicant: Alsobrook II, John P.
Applicant: Alsobrook II, John P.
Applicant: Burgess, Catherine E.
Applicant: Alsobrook II, John P.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Alsobrook II, John P.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Alsobrook II, John P.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Catherine E.
Applicant: Burgess, Cather
```

Encoding

```
PRIOR APPLICATION NUMBER: 60/265,395
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/266,406
PRIOR FILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR FILING DATE: 2001-02-05
PRIOR FILING DATE: 2001-02-07
PRIOR PRILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR PILING DATE: 2001-02-07
PRIOR FILING DATE: 2001-02-08
PRIOR FILING DATE: 2001-02-08
PRIOR FILING DATE: 2001-02-08
PRIOR PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR PRIOR DATE: 2001-02-08
PRIOR FILING DATE: 2001-02-08
PRIOR FILING DATE: 2001-02-08
PRIOR FILING DATE: 2001-02-08
PRIOR FILING DATE: 2001-02-08
PRIOR FILING DATE: 2001-02-08
PRIOR FILING DATE: 2001-02-08
PRIOR FILING DATE: 2001-02-08
PRIOR FILING DATE: 2001-02-08
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 99.6%;
Best Local Similarity 99.7%;
Matches 663; Conservative
                                                                                                                                                                  601
                                                                                                                                                                                                                           566
                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                       506
                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                   446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
      IIEVS
                                                                                                         QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26
                                       IIEVS 665
                                                                              ÓKPSDRADSRRSWHEESPFEKOFKRRSCOMEFGESIMSENRSREELGKVGSOSSFSGSME
                                                                                                                                                                                                                              SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLFTCGDQVYSVRRR
                                                                                                                                                                                       ŚDILAPÓTŚTPŚLTŚŚWYPATEŚŚHFYSAŚATYGGŚAŚYŚAYŚCŚQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                skrlhsyritsssgtadrsillsplhrsgsvednyhtsflfglstsgochltksagiglkgwh
                                                                                                                                                                                                                                                                                                                                       SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                            ŚŚŚEDALEYYKPŚTTLDGTNKLCQFŚPVQELŚEQTPETŚPDKEEAŚTPKKLQTARPŚDŚQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                $$$EDALEYYKP$TTLDGTNKLCQF$PVQEL$EQTPET$PDKEEA$IPKKLQTARP$D$Q 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PŚVPŚVÓPŚLĹEDŚPĹVOAĹŚGĹĤĹŚADŘĹEDŚNŘĹŘŘŠPŚĹĎÍŘŚVŠÝŚAŚMĀASĹĤGP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ÓTGASGÞŔSKĹKĹĹĦĹĖKÞNEÞVÞÁVSEGGÓKSĒTÞĹSÞÞĆAĎSÁTSĒÁAGQRÞVHÞÁSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QTGASGPKSKLKLLHLEKÞNEPVÞAVSEGGOKSETPLSPPCADSATSEAAGORPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LVHCLAGISRSATIAIAYIMKRMDMSLDEAYREVKEKRPTISBNENFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ĹVHČĽÁGÍSŘSAŤÍÁÍAÝÍMKRMDMSLDEAÝRFVKEKRÞŤÍSÐNFNFĽGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QQNGIGYVLNASNTCEKEDFIPESHFLRVEVNDSFCEKILEWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
||||||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LAGGFAEFSRCFFGLCEGKSTLVPTCISQPCLFVANIGFTRILFNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ĹAĠĠŔAĖŔĸĊŖĠĹĊĔĠĸĠŦĹVŖŦĊĬĠŎŖĊĹŖVAŇĬĠŖŦĸĬĹŖŇĹŶĹĠĊQĸĎVĹŇĸĔĹM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     pkvlitelionsakikvbibcsokvvvybossobvasissbceitvlickleksensvhl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | DXVLITELIOHSAKHKVDIDCSOKVVVVDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mahemi ctoi vterl vallesctervili dsrpeveyntshi leainincski mkrri oo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININGSKLMKRRLQQ
690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 3406; DB 12;
Pred. No. 4.9e-250;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      690;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                                                                                                                                                                                                      565
                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    85
```

S

Ş В Ş 뮍 Ş 밁 Ś Дb Ş 밁 Ş 밁 Ś 밁 Ş 밁 Ş 밁

```
Š
                                                      밁
                                                                            δ
                                                                                                          B
                                                                                                                                 8
                                                                                                                                                                 ДĎ
                                                                                                                                                                                           Ş
                                                                                                                                                                                                                          뮍
                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                       뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION: Clone ID: LIB4119-028-H6_FLI.pep
US-10-425-114-54204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Liu, Jingdong
APPLICANT: Liu, Jingdong
APPLICANT: Chou, Yihua
APPLICANT: Screen, Steven E
APPLICANT: Screen, Steven E
APPLICANT: Tabaska, Jack E
APPLICANT: Tabaska, Jack E
APPLICANT: Tabaska, Jack E
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21 (53313) B
CURRENT APPLICATION NUMBER: US/10/425,114
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 73128
SEQ ID NO 54204
LENGTH: 690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 12
US-10-425-114-54204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 663;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 54204, Application US/10425114
Publication No. US200400348888A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
                        109
                                                                                                          506
                                                                                                                                    481
                                                                                                                                                                 446
                                                                                                                                                                                             421
                                                                                                                                                                                                                        386
                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                             206
                                                                                                                                                                                                                                                                                                                                                                                                                                                   146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRÞFVEYNTSHILEAININGSKLMKRRLQO
OKPSDRADSRRSWHEESPFEKOFKRRSCOMEFGESIMSENRSRBELGKVGSQSSFSGSMB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                     SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                          ŚKRLHŚYRTSŚŚGTAQRSLLSPLHRSGŚYEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                          SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH 540
                                                                                                                                               ŚŚŚEDALEYYKPŚTTLDGTNKLCQFŚPVQELŚEQTPETŚPDKEEAŚIPKKLQTARPŚDŚQ
                                                                                                                                                                   SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ 480
                                                                                                                                                                                                         PŚVPŚVQPŚLIEDSPIVQALSGLHLSADRLEDŚNKLKRŚPŚLDIKŚVSYSASMAASLHGP
                                                                                                                                                                                                                           PSVPSVQPS1LEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                 QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV 360
                                                                                                                                                                                                                                                                                                                                      QTGASGÞKSKLKLLHLEKFNEÞVÞÁVSEGGQKSETÞLSÞÞCADSATSBÁAGQRÞVHÞASV
                                                                                                                                                                                                                                                                                                                     LVHCLÁGI SRSATTÁTAY I MKRMDMSLDEAYR FVKBKR PTI S PN PN FLGÓLLDY EKKIKN
                                                                                                                                                                                                                                                                                                                                                                                             QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIBKAKASNGCV 240
                                                                                                                                                                                                                                                                                                                                                                                                                                QQNGIGYVLNASNTCPKPDFIPESHFLKVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DKVLÍ TELÍ OHSÁKHKVDÍ DCSOKVVVÝDOS SÓDVÁŠLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                   "TŚŚWYFATEŚŚHFYŚAŚAI YGĠŚAŚYŚAYŚĊŚQLPTCĠDQVYŚVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 3406; DB 12;
Pred. No. 4.9e-250;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 690;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0,
         660
                                    625
                                                                                           565
                                                                                                                                                  505
                                                                                                                                                                                                         445
                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                385
                                                                                                                                                                                                                                                                                                                       325
                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                              265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   85
```

120 120 60

300 300 240 240

```
FILE REFERENCE: 21402-258

CURRENT APPLICATION NUMBER: US/10/072,012

CURRENT FILING DATE: 2002-01-31

PRIOR APPLICATION NUMBER: 60/265,102

PRIOR APPLICATION NUMBER: 60/265,514

PRIOR FILING DATE: 2001-01-31

PRIOR PRILING DATE: 2001-01-31

PRIOR PRILING DATE: 2001-01-31

PRIOR FILING DATE: 2001-01-31

PRIOR FILING DATE: 2001-01-31

PRIOR PRIOR DATE: 2001-01-31

PRIOR FILING DATE: 2001-01-31

PRIOR PRIOR PRILING DATE: 2001-01-31

PRIOR PRILING DATE: 2001-01-31

PRIOR APPLICATION NUMBER: 60/265,412

PRIOR APPLICATION NUMBER: 60/265,406

PRIOR APPLICATION NUMBER: 60/266,406

PRIOR PILING DATE: 2001-02-02

PRIOR PILING DATE: 2001-02-02

PRIOR APPLICATION NUMBER: 60/266,406

PRIOR PILING DATE: 2001-02-02

PRIOR PILING DATE: 2001-02-02

PRIOR PILING DATE: 2001-02-02

PRIOR PILING DATE: 2001-02-02
                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                     ; ORGANISM: Homo sapiens
US-10-072-012-681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-072-012-681
                                                                                                                                                                                           Remaining Prior Application data removed -
NUMBER OF SEQ ID NOS: 1391
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 681
LENGTH: 665
                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 681, Application US/10072012 Publication No. US20040033493A1
                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Grosse, William M.
APPLICANT: Alsobrook II, John P.
APPLICANT: Lepley, Denise M.
APPLICANT: Rieger, Daniel K.
APPLICANT: Burgess, Catherine E.
TITLE OF INVENTION: Proteins and Nucleic Acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Tchernev, Velizar
                                                                                                                                                                                                                                                                                          PRIOR FILING DATE: 2001-02-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: 60/267,057
FILING DATE: 2001-02-07
APPLICATION NUMBER: 60/266,975
FILING DATE: 2001-02-07
APPLICATION NUMBER: 60/267,459
                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 60/266,767
FILING DATE: 2001-02-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        686 İİEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661 IIEVS
                                                             662;
1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Furtak, Katarzyna
Grosse, William M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Colman, Steven D. Wolenc, Adam R. Pena, Carol E. A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gerlach, Valerie
Taupier Jr, Raymond J.
Gusev, Vladimir Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Patturajan, Meera
Shimkets, Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Zerhusen, Bryan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Spytek, Kimberly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Miller, Charles E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Padigaru,
                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Esha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           David W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Luca
                                                                             99.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Muralidhara
                                                           ;
                                                       Score 3399; DB 12;
Pred. No. 1.6e-249;
1; Mismatches 2;
                                                                                                                                                                                                                                                                      See File Wrapper or PALM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Encoding
                                                                                             Length
                                                           Indels
                                                                                                 665;
                                                         0;
                                                         Gaps
                       60
                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 14
US-10-094-749-2312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 2312, Application US/10094749 Publication No. US20030219741A1
                                                                             APPLICANT:
                                                                                                                                                                                                                                                                    APPLICANT:
     CURRENT APPLICATION NUMBER: US/10/094,749
                     APPLICANT: NAGAHARI, KENJI
APPLICANT: MASUHO, YASUHIKO
TITIE OF INVENTION: NOVEL FULL-LENGTH CDNA
FILE REFERENCE: 084335/0160
                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: ISOGAI,
                                                                                                                     APPLICANT:
                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                               OTSÜKA, KAORU
NAGAI, KEIICHI
IRIE, RYOTARO
TAMECHIKA, ICHIRO
SEKI, NAOHIKO
YOSHIKAWA, TSUTOMU
OTSUKA, MOTOYUKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETFLSPPCADSATSEAAGQRPVHPASV 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                              ISHII, SHIZUKO
YAMAMOTO, JUN-ICHI
ISONO, YUUKO
HIO, YURI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SDILAPOTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IIEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SKRIHSVRTSSSGTAQRSILSPIHRSGSVEDNYHTSFIFGISTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LAGGFABFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTLILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                            OTSUKI, TETSU
WAKAMATSU, AI
                                                                                                                                                                                                                                                                                                                                                SUGIYAMA, TOMOYASU
OTSUKI, TETSUJI
                                                                                                                                                                                                                                                                                                          SATO, HIROYUKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 665
                                                                                                                                                                                                                                                                                                                                                                                        TAKAO
```

600 540 480 480 420 420 360

CURRENT FILING DATE: 2002-03-12
PRIOR APPLICATION NUMBER: 60/350,435
PRIOR FILING DATE: 2002-01-24
PRIOR APPLICATION NUMBER: JP 2001-328381
PRIOR FILING DATE: 2001-09-14
NUMBER OF SEQ ID NOS: 3381
SOFTWARE: Patentin Ver. 2.1
ENGTH: 665
TYPE: PRT
COCANTON: 1000-0514

; ORGANISM: Homo sapiens US-10-094-749-2312

Query Match Best Local Simi Matches 662;

Similarity

99.4%; ilarity 99.5%; Conservative

В S 뭥 Ś 밁 Ś

181 181 121 121 61 61

```
541 SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR
                                                                                                                                                                                                                                                      OKPŚDRADŚREŚWHEESPFEKOFKRRSCOMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                             QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                           ŚKRĽHSVRŤSSSGŤAQRSLĹSPĽHRSGSVEDNYHŤSFĽFGĽSŤSQQHĽŤKSAGĽGĽKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                   SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNVHTSFLFGLSTSQQHLIKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ŚŚŚEDALEYYKPŚTTLDGTNKLCQFŚPVQELŚBQTPETŚPDKBEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SSSEDALEYYKPSTILDGTNKLCQFSPVQELSEQTFETSPDKEEASIPKKLQTARPSDSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OTGASGÞKSKIKILHLEKÞNEÞVÞÁVSEGGOKSETÞLSÞÞCÁÐSÁTSEÁÁGORÞVHÞÁSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ĹVHĊĽĀĠĬŚŔŚĄŤĨĄĨĄŸĬŃKRMDMŚĽDĖĄŸŔŦVKĖKŔŦŤĬŚPŃŦŃŦĽĠQĽĽDYEKKĬKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QUNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LAGGFABFSRCFPGLCEGKSTLVPTCISOPCLPVANIGPTRILPNLYLGCORDVLNKELI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ĹAĠĠŔĀĖŔĸĊŔŔĠĹĊĿĠĸĠŦĹVŔŦĊĬĠŎŖĊĹŔŶĀŇĬĠŔŢĿĬĹŔŃĹŶĹĠĊQĸĎVĹŇĸĿĹM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 3399; DB 15;
Pred. No. 1.6e-249;
1; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                      660
                                                                                                                                                                                                                                                                                        660
                                                                                                                                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: PatentIn Ver. 2
SEQ ID NO 258
LENGTH: 662
TYPE: PRT
ORGANISM: Homo sapiens
US-10-072-012-258
                                                    Ş
                                                                                       밁
                                                                                                                   Ś
                                                                                                                                                         밁
                                                                                                                                                                                   Ś
                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: ALBODTOCK II, John P.
APPLICANT: Rieger, Denise M.
APPLICANT: Burgess, Catherine E.
ITILE OF INVENTION: Proteins and Nucleic Acids Encoding Sam:
FILE REFERENCE: 21402-258
CURRENT APPLICATION NUMBER: US/10/072,012
PRIOR PILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,512
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR PILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,395
PRIOR APPLICATION NUMBER: 60/265,395
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR APPLICATION NUMBER: 60/266,406
PRIOR FILING DATE: 2001-02-05
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/267,057
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
PRIOR PILING DATE: 2001-02-05
                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                               Best Loc
Matches
                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQ ID NOS: 1391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                Local
                    181
                                                    181
                                                                                     121
                                                                                                                     121
                                                                                                                                                       61
                                                                                                                                                                                                                                                                                             660;
                                                                                                                                                                                       61
QQNGIGYVLNASNTCÞKÞDÞIÞESHFLKVÞVNDSFCEKILÞWLDKSVDFIEKAKASNGCV
                    | OQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                     LAGGFAEFSRCFPGLCEGKSTLVPTCISOPCLPVANIGPTRILPNLYLGCORDVLNKELI
                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                    DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASUSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                         DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                          LAGGFAEFSRCFPGI
                                                                                                                                                                                                      MAHEMIGTQI VTERLVALLESGTEKVILI DSR PPVEYNTSHI LEAININGSKLMKRRI LQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Anderson, David W.
Rastelli, Luca
Miller, Charles E.
Gerlach, Valerie
Taupier Jr., Raymond J
Gusev, Vladimir Y.
Colman, Steven D.
Wolenc, Adam R.
Pena, Carol E. A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Furtak, Katarzyna
Grosse, William M.
Alsobrook II, John P.
                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Padigaru,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Patturajan, Meera
Shimkets, Richard
                                                                                                                                                                                                                                                                                                   98.9%;
99.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         , Bryan
an, Meera
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Muralidhara
David W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Esha
                                                                 ĊĒĠKŚTĹVĖTĊĪSOPĊĹÞVĀNĪĠĒTRĪĹPNĹYĽĠĊORĎVĹŃKĒĹM
                                                                                                                                                                                                                                                                           Score 3379.5; DB 12; Length Pred. No. 4.7e-248; 1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     See File Wrapper
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Same
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ç
                                                                                                                                                                                                                                                                                                                  662;
                                                                                                                                                                                                                                                                              ω
••
                                 240
                                                                   180
                                                                                                    180
                                                                                                                                    120
                                                                                                                                                                      120
                                                                                                                                                                                                       60
                                                                                                                                                                                                                                           60
```

RESULT 15
US-10-072-012-258
i Sequence 258, Application US/10072012
i Publication No. US20040033493A1
i GENERAL INFORMATION:
i APPLICANT: Tchernev, Velizar
i APPLICANT: Spytek, Kimberly

Ś 문 S 밁 S 뭐 Ś D, Ś 밁 Ş 맑 S 멼 Ş 밁 δ

IIEVS

665

481 481 421

SDILAPOTSTPSLTSSWYFATESSHFYSASAI

421 361 361 301 301

661 661 601 109

ITEVS

B &	8 8	B 8	ß 8	<u> </u>	8 8	ß 8	8 8
661 658	601 598	541 538	481 478	· 421	361 359	301 301	241 241
IIEVS 665 IIEVS 662	QKPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME 660	SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR 600	SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWH 540	SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ 480	PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF 420	QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV 360	LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN 300

Search completed: June 21, 2004, 13:24:57 Job time: 58.0786 secs

This Page Blank (uspto)

```
Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           õ
     445
439.5
433
425
                                                                                                                                                                                                                                                                                                                                                                      654.5
                                                                                                                                                                                                                                                                                                                                                                                                       3406
654.5
654.5
     420
409.5
409
409
33.5
393.5
377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d. No. is the number of results predicted by chance to have a
re greater than or equal to the score of the result being printed,
is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein search, using sw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-029-345A-109
3418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                June 21, 2004, 13:20:38 ; Search time 22.6939 Seconds (without alignments) 1512.797 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Issued_Patents AA:*

1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*

2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*

3: /cgn2_6/ptodata/2/iaa/6A_COMB.pep:*

4: /cgn2_6/ptodata/2/iaa/6B_COMB.pep:*

5: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*

6: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                389414 seqs, 51625971 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MAHEMIGTQIVTERLVALLE.....LGKVGSQSSFSGSMEIIEVS
                    13.0
13.0
13.0
13.0
112.9
112.0
112.0
112.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd
                                                                                                                                                                                                                                                     ٠. ن
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
   170
170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           몂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gapext 0
                                 US-09-816-494-2
US-09-557-921-15
US-09-557-921-15
US-09-519-380-16
US-09-519-380-16
US-09-619-380-457-805
US-09-702-705-805
US-09-713-125-805
US-09-614-124B-807
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
US-09-614-124B-827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      model
Sequence 2, Appli
Sequence 15, Appl
Sequence 15, Appl
Sequence 17, Appl
Sequence 2, Appli
Sequence 805, App
Sequence 805, App
Sequence 805, App
Sequence 805, App
Sequence 807, App
Sequence 827, App
Sequence 827, App
Sequence 827, App
Sequence 827, App
Sequence 827, App
Sequence 827, App
Sequence 11, Appl
Sequence 11, Appl
Sequence 24, Appl
Sequence 27, Appl
Sequence 27, Appl
Sequence 28, Appl
Sequence 27, Appl
Sequence 28, Appl
Sequence 27, Appl
Sequence 28, Appl
Sequence 27, Appl
Sequence 28, Appl
Sequence 27, Appl
Sequence 28, Appl
Sequence 28, Appl
Sequence 29, Appl
Sequence 20, Appl
Sequence 21, Appl
Sequence 22, Appl
Sequence 22, Appl
Sequence 23, Appl
Sequence 24, Appl
Sequence 26, Appl
Sequence 806, App
Sequence 806, App
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Description
                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                     Ś
                                    밁
                                                                  Ś
                                                                                                   В
                                                                                                                             S
                                                                                                                                                                   멍
                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 1
US-09-816-494-2
                                                                                                                                                                                                                                         121
      361
                                    301
                                                                     301
                                                                                                        241
                                                                                                                                     241
                                                                                                                                                                      181
                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                            121 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                          61 DKYLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
```

45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28
312	312	319	. 319	319	319	338.5	338.5	338.5	338.5	346.5	346.5	346.5	346.5	366	377	377	377
9.1	9.1	9.3	9.3	9.3	9.3	9.9	9.9	9.9	9.9	10.1	10.1	10.1	10.1	10.7	11.0	11.0	11.0
168	168	169	169	169	169	170	170	170	170	168	168	168	168	397	302	302	302
4	4	4	4	4	4	4	4	4	4	4	4.	4	4	N	4	4.	4
US-09-557-921-16	US-09-544-716-15	US-09-619-380-18	US-09-564-357-19	US-09-557-921-17	US-09-544-716-16	US-09-619-380-14	US-09-564-357-15	US-09-557-921-12	US-09-544-716-12	US-09-619-380-15	US-09-564-357-16	US-09-557-921-13	US-09-544-716-13	US-08-990-379-8	US-09-589-184-806	US-09-671-325-806	US-09-614-124B-806
Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence
16,	15,	18,	19,	17,	16,	14,	15,	12,	12,	15,	16,	13,		æ	806	906	906
Appl	Appl	App1	App1	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	App1i	6, App	, App	App

ALIGNMENTS

CURRENT APPLICATION NUMBER: US/09/816,494 CURRENT FILING DATE: 2001-03-23 PRIOR APPLICATION NUMBER: US 60/191,858 PRIOR FILING DATE: 2000-03-24 NUMBER OF SEQ ID NOS: 10 SOFTWARE: FASTSEQ for Windows Version 4.0 SEQ ID NO 2 SEQ ID NO 2 LENGTH: 665 TYPE: PRT ORGANISM: Homo sapiens US-09-816-494-2 Sequence 2, Application US/09816494 Patent No. 6664089 GENERAL INFORMATION: Matches 663; Conservative Query Match Best Local Similarity APPLICANT: Meyers, Rachel A. TITLE OF INVENTION: 38692 AND 21117, NOVEL DUAL SPECIFICITY TITLE OF INVENTION: PHOSPHATASE MOLECULES AND USES THEREFOR FILE REFERENCE: 10448-030002 1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININGSKLMKRRLQQ 99.6%; 1: Score 3406; DB 4; Pred. No. 4.8e-288; Mismatches Length 665; Indels 0 Gaps

PSVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNKLKRSFSLDIKSVSYSASMAASLHGF

QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV

360 300 300 240 240 180 180 120 120 60 60 0

QTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPASV

LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN

LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN

QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM

QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV

DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHI

MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININGSKLMKRRLQQ

```
RESULT 3
US-09-557-921-15
Sequence 15, Application US/09557921
Fatent No. 655181.0
GENERAL INFORMATION:
APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
FIITE OF INVENTION: DISP-10 DUAL-SPECIFICITY PHOSPHATASE
FILE REFERENCE: 200125.416
CURRENT APPLICATION NUMBER: US/09/557,921
UNUMBER OF SEQ ID NOS: 20
INUMBER OF SEQ ID NOS: 20
INUMBER OF SEQ ID NOS: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 14, Application US/09544716
Parent No. 6492157
GENERAL INFORMATION:
APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
ITITLE OF INVENTION: DSP-9 DUAL-SPECIFICITY P.
FILE REFERENCE: 200125.415
CURRENT APPLICATION NUMBER: US/09/544,716
CURRENT FILING DATE: 2000-04-10
NUMBER OF SEQ ID NOS: 20
SOFTMARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
19.1%; Score 654.5; DB 4
Best Local Similarity 72.5%; Pred. No. 3.8e-49;
Matches 121; Conservative 27; Mismatches 18
                                                                                                                                                                                                                                                                                                 253 TIAIAYIMKRMDMSLDEAYRFVKEKRPTISBNFNFLGQLLDYEKKIK 299
                                                                                                                                                                                                                                                                                                                                                                                                                                     134 GLCEGK-STLVFTCISQPCLFVANIGFTRILFNLYLGCQRDVLNKELIQQNGIGYVLNAS
                                                                                                                                                                                                                                                                                   193 YTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCVLVHCLAGISRSA 252
                                                                                                                                                                                                                                                                                                                                                  61 NSCPKPDFICESRFWRVPINDNYCEKLLPWLDKSIBFIDKAKLSSCQVIVHCLAGISRSA
                                                                                                                                                                                                                                                                                                                                                                                                                   ĠĹĊĖĠĸÞAAĹĹÞMSLŚQĖĊĹÞVPSVĠĹTRÍĹÞHĹYĹĠSQXĎVĹŃKDĹMTQŃĠĹSÝVĹNAŚ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QXPSDRADSRRSWHEESPFEKQFKRRSCQMEFGESIMSENRSREELGKVGSQSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OKPSDŘADŠRŘSWHÉESPPEKOPKRRSCOMEFGESIMSENRSŘEELGKVGSOSSFSGSME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SDÍLÁÞÓTSTÞSLTSSWYFÁTESSHFYSÁSÁÍYGGSÁSYSÁYSCSQLÞTCGDQVYSVRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SDILAPQTSTPSLTSSWYFATESSHFYSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRR 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŚKRLHSYRTSSSGTAQRSLLSPLHRSGSVEDNYHTSPLFGLSTSQQHLTKSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SKRLHSVRTSSSGTAQRSLLSPLHRSGSVEDNYHTSFLFGLSTSQQHLTXSAGLGLKGWH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SSSEDALEYYKPSTTLDGTNKLCQFSPVQELSEQTPETSPDKEEASIPKKLQTARPSDSQ 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ŚŚŚĘDALEYYKPŚTTLDGTNKLCOFSPYOELSBOTPETŚPDKEBASIPKKLOTARPSDSO 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DSP-9 DUAL-SPECIFICITY PHOSPHATASE
                                 Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 170;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                                                                                                      192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            I 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ITTLE OF INVENTION: DSP-5 DUAL-SPECIFICITY PHOSPHATASE
FILE REFERENCE: 200125, 413
CURRENT APPLICATION NUMBER: US/09/564,357
CURRENT FILLING DATE: 2000-04-24
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSEQ for Windows Version 4.0
ENGTH: 170
TYPE: PAT
ORGANISM: Homo sapiens
US-09-564-357-17
APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
ITITE OF INVENTION: DSp-11 DUAL SPECIFICITY PHOREMAN PROPERTY APPLICATION NUMBER: US/09/619,380
CURRENT APPLICATION NUMBER: US/09/619,380
CURRENT FILING DATE: 2000-07-19
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 16
                                                                                                                                                                                                                RESULT 5
US-09-619-380-16
                                                                                                                                                                                                                                                                                            맑
                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                              Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                        Sequence 16, Application US/09619380
Patent No. 6649391
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Simi
Matches 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 4
US-09-564-357-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; LENGTH: 170
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-557-921-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 17, Application US/09564357
Patent No. 6645753
GENERAL INFORMATION:
APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 19.1%; Score 654.5; DB 4 Best Local Similarity 72.5%; Pred. No. 3.8e-49; Matches 121; Conservative 27; Mismatches 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 15
LENGTH: 170
                                                                                                                                                                                                                                                                                        253 TIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYBKKIK 299
                                                                                                                                                                                                                                                                                                                                   134 GLCEGK-STLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELIQQNGIGYVLNAS 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                253 TIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNENFLGQLLDYBKKIK 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 193 YTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFTEKAKASNGCVLVHCLAGISRSA 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 134 GLCEGK-STLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELIQQNGIGYVLNAS 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                h 19.1%; Score 654.5; DB 4 Similarity 72.5%; Pred. No. 3.8e-49; 21; Conservative 27; Mismatches 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 NSCPKPDFICESRFWRVPINDNYCEKLLPWLDKSIEFIDKAKLSSCQVIVHCLAGISRSA
                                                                                                                                                                                                                                                                    TIAIAYIMKTMGMSSDDAYRFVKDRRPSISPNFNFUGQLLEYERTLK 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 GLCEGKPAALLPMSLSOPCLPVPSVGLTRILPHLYLGSOKDVLMKDLMTOMGISYVLMAS
                                                                                                                                                                                                                                                                                                                                                                                                        ĠĹĊĔĠŔ₽AAĹĹÞMSĽŚQĖĊĹĖVPSVĠĹŤŔĬĹÞĦĹŸĹĠSŶĸĎŸĹŇĸĎĹMŢQŇĠĬSŸŸĹŊĀŚ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 170;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 170;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     μ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
```

밁

밁 Ś

Ś 밁 Ş

; ORGANISM: Homo sapiens US-09-544-716-14

SOPTWARE: Fai SEQ ID NO 14 LENGTH: 170 TYPE: PRT

RESULT 2 US-09-544-716-14

В Ş

661 661 109 601 541 541 481 481 421 421 361

IIEVS IIEVS

665 665

밁 Ś 멼 Ś 밁 Ś В δ

```
ঠ
                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                 ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                         ફ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 6
US-09-557-921-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      맑
                                                                                               RESULT 7
US-09-702-705-805
                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; TYPE: PRT; ORGANISM: Homo sapiens US-09-557-921-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-619-380-16
 Sequence 805, Application US/09702705
PATENT NO. 6504010
GENERAL INFORMATION:
APPLICANT: Wang, Tongtong
APPLICANT: Bangur, Chaitanya S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
TITLE OF INVENTION: DSP-10 DUAL-SPECIFICITY
FILE REFERENCE: 200125.416
CURRENT APPLICATION NUMBER: US/09/557,921
CURRENT FILING DATE: 2000-04-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 2
LENGTH: 482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 13.7%;
Best Local Similarity 35.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 2, Application US/09557921 Patent No. 6551810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 170
                                                                                                                                                                             407
                                                                                                                                                                                                                                                                                         188 VLNAS----YTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCVLV 242
                                                                                                                                                                                                                                                                                                                                                                                                           233 IIVYDENTNEPSRVMPSQPLHIVLESLKREGKEPLVLKGGLSSFKQNHENLCDNSLQLQE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    253 TIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIK 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              134 GLCEGK-STLVPTCISQPCLFVANIGPTRILFNLYLGCQRDVLNKELIQQNGIGYVLNAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 107;
                                                                                                                                                                                                                                                                                                                                                                                                                                               85 VVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHLLAGGFAEFSRCFPGLCEGK----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27 LLIDSRPFVEYNTSHILEAININCS-KLMKRRLQQDKVLITELIQ-HSAKHKVDIDCSQK 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 NSCPKPDFICESRFMRVPINDNYCEKLLPWLDKSIEFIDKAKLSSCQVIVHCLAGISRSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FastSEQ for Windows Version 4.0
                                                                                                                                                                           HCQAGVSRSATIVIAYLMKHTRMTMTDAYKFVKGKRPIISPNLNFMGQLLEFEEDLNN 464
                                                                                                                                                                                                             HCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                     VINVTTHLPLYHYEKGLF----NYKRLPATDSNKQNLRQYFEEAFEFIEEAHQCGKGLLI 406
                                                                                                                                                                                                                                                                                                                                 CREVGGGASAASSILPQPI -- PTTPDIENAELTPILPFLFLGNEQDAQDLDTMQRLNIGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VIIDCRPFMEYNKSHIQGAVHINCADKISRRRLQQGKITVLDLISCREGKDSFKRIFSKE 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TIAIAYIMKTMGMSSDDAYRFVKDRRPSISPNFNFLGQLLEYERTLK 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GLCEGKPAALLPMSLSOPCLPVPSVGLTRILPHLYLGSOKDVLNKDLMTONGISYVLNAS
                                                                                                                                                                                                                                                                                                                                                                 -----STLVPTCISQPCLP-VANIGPTRILPNLYLGCQRDVLNKELIQQNGIGY 187
Wang, Tongtong
Bangur, Chaitanya S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 65;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 654.5; DB 4
Pred. No. 3.8e-49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 469; DB 4; Length 482; Pred. No. 3.1e-32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               96; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 170;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ۳.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                 139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
```

```
; LENGTH: 394
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-702-705-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                             US-09-736-457-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER FILE REFERENCE: 210121.478C14
CURRENT APPLICATION NUMBER: US/09/702,705
CURRENT FILING DATE: 2000-10-30
NUMBER OF SEQ ID NOS: 1833
SOFTWARE: PastSEQ for Windows Version 3.0
SEQ ID NO 805
LENGTH: 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 13.3%; Score 453; DB 4; Best Local Similarity 31.4%; Pred. No. 5.5e-31; Matches 120; Conservative 73; Mismatches 143;
                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                   Sequence 805, Application US/09736457 Patent No. 6509448
                                                                                                                                                                                                  APPLICANT:
APPLICANT:
                                                                                                 APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
APPLICANT:
APPLICANT:
TITLE OF INVENTION: COMPOSITIONS AND METITITE OF INVENTION: DIAGNOSIS OF LUNG CAPPILE REFERENCE: 210121.478C15
CURRENT APPLICATION NUMBER: US/09/736,457
CURRENT FILING DATE: 2000-12-13
                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                           374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360 VPSVPSVQPSLLEDSPLVQALS 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300 NQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPAS 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                217 LDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFMEAIEYIDAVKDCRGR 275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    135 LCEGKSTL-----VPTCISQP----CLPVA----NIGPTRILPNLYLGCQRDVLNKEL 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               97 LRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSEYPE 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19 LESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELI--QHSAKHK 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    77 VDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRCFPG 134
                                                                                            Vedvick, Tom
Carter, Darrick
Retter, Marc
Manton, Jane
Fan, Liqun
Wang, Aijun
                                                                                                                                                                                                                                                                                                                                                                                                                                           VHSAPSSLPYL--HSPITTSPS 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNENFLGQLLDYEKKIK 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LPSG-GKCLLLDCRPFLAHSAGYILGSVNVRCNTIVRRR-AKGSVSLEQILPAEEEVRAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Vedvick, Tom
Carter, Darrick
Retter, Marc
Mannion, Jane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATSCAAEAAS-----PSGPL---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VĽVHCQÁĠÍSRSÁTÍCLÁYLMMKKRVRLEEAFEFVKQRRSIISÞNFSFMGQLLQFESQVL 335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FCSKTKALAAIPPPVPPSATEPLDLDCSSCGTPLHDQEGPVEILPFLYLGSAYHAARRDM
                                                                                                                                                                                                                                         Wang, Tongtong
Bangur, Chaitanya
Lodes, Michael A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Fanger, Gary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Lodes, Michael
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Liqun
                                                             AND METHODS FOR THE THERAPY LUNG CANCER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -GERGKTPATP----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 394;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             THE THERAPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels 46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              96
```

```
APPLICANT: Panger, Garry
APPLICANT: Vedvick, Tom
APPLICANT: Vedvick, Tom
APPLICANT: Retter, Marrick
APPLICANT: Retter, Marc
APPLICANT: Mannion, Jane
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C9
CURRENT APPLICATION NUMBER: US/09/614,124B
UMBER OF SEQ ID NOS: 1668
SOFTWARE: FastSEQ for Windows Version 3.0
ENGID NO 805
LENGTH: 394
TYPE: PRT
ORGANISM: Homo sapiens
US-09-614-124B-805
                                                                                                                                             Overy Match
Overy Match
13.3%; Score 453; DB 4; Length 394;
Best Local Similarity 31.4%; Pred. No. 5.5e-31;
Matches 120; Conservative 73; Mismatches 143; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 9
US-09-614-124B-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Wang, Tongtong
APPLICANT: Lodes, Michael A.
APPLICANT: Lodes, Michael A.
APPLICANT: Fanger, Gary
APPLICANT: Vedvick, Tom
APPLICANT: Carter, Darrick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 805, Application US/09614124B
Patent No. 6630574
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            i TYPE: PRT
i ORGANISM: Homo sapiens
US-09-736-457-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQ ID NOS: 1864
SOFTWARE: FastSEQ for Windows Version
SEQ ID NO 805
LENGTH: 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches 120;
                                              374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300 NQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPAS 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              97 LRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSESYPE 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      77 VDIDCSQKVVVYXPQSSQDVASLSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRCFPG 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19 LESGTEKVILLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELI--QHSAKHK 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VHSAPSSLPYL--HSPITTSPS 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VPSVPSVQPSLLEDSPLVQALS 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATSCAAEAAS-----PSGPL----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIK 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFWEAIEYIDAVKDCRGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITTE THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELEFORM TO THE TELE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LCEGKSTL-----VPTCISQP----CLPVA-----NIGPTRILPNLYLGCQRDVLNKEL 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FČSKTKAĹAAIPÞPVÞÞSATEÞLDLDČSSCGTPLHDQEĠÞVEÍLÞFLÝLĠSAYHAARRDM 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Chaitanya S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13.3%; Score 453; DB 4; Length 394; 31.4%; Pred. No. 5.5e-31; ative 73; Mismatches 143; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -GERGKTPATP-----TSQFVFSFPV-SVG 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13.0
                                                                                                                                             46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  46;
                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Retter, Marc
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Fan, Liqun
ITITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
FILLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILLE REFERENCE: 210121.478C12
CURRENT APPLICATION NUMBER: US/09/671,325
CURRENT FILING DATE: 2000-09-26
NUMBER OF SEQ ID NOS: 1825
SOFTMARE: FastSEQ for Windows Version 3.0
LENGTH: 394
TYPE: PRI
                                              밁
                                                                                                  Ş
                                                                                                                                                                 망
                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-671-325-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 10
US-09-671-325-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600, Patent No. 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 805, Application US/09671325 Patent No. 6667154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Sin
217 LDALGÍTALLNVŚSDĆĖN-HFEGHYQYKCIPVEDNHKADISSWFMEAIEYIDAVKDCRGR
                                                                                                                                                           157
                                                                                                                                                                                                                                                                                     97
                                                                                                                                                                                                                                                                                                                                             77
                                                                                                                                                                                                                                                                                                                                                                                                                         19 LESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELI--QHSAKHK 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    374 VHSAPSSLPYL--HSPITTSPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300 NQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSBAAGQRPVHPAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240 VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIK 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           217 LDALGÍTALLÍNVSSDCÞN-HFEGHYQYKCIÞVEDNHKADÍSSWFMEAIEYÍDAVKDCRGR 275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         157
                                                           IQQNGIGYVLNASYTÇPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC
                                                                                                                                                                                                                                                                                               VDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRCFPG 134
                                                                                                                                                                                                                                                                                                                                                                    ĹPŚĠ-GŔĊĹĹĹĹĎĊŔĖFLAHSAGYĹĹGSVŇVRĊNTIVRŔŔ-AKGSVSLEQILPAEEEVRAR
                                                                                                                      PČSKTKAĽAAIPPPVÝPSATEPLOLDČSSCGTPLHDQEGÝVBÍĽPFĽÝĽGSAVHAARRDM
                                                                                                                                                                              LCEGKSTL-----VPTCISQP----CLPVA----NIGPTRILPNLYLGCQRDVLNKEL 179
                                                                                                                                                                                                                                          LRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSEYPE 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Vedvick, Ton
Carter, Darrick
Retter, Marc
Mannion, Jane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATSCAAEAAS-----PSGPL----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VLVHCQAGISRSATICLAYLMMKKRVRLEEAFEFVKQRRSIISPNFSFMGQLLQFESQVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bangur, Chaitar
Lodes, Michael
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VPSVPSVQPSLLEDSPLVQALS 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fanger, Gary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IQQNGIGYVLNASYTÇPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FĆSKTKAĹAAIPPPÝPPSATEPLDLDĆSSCGTPLHDQBGPVBÍLPPLÝLGSAYHAARRDM 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LCEGKSTL-----VPTCISQP----CLPVA-----NIGPTRILPNLYLGCQRDVLNKEL 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSEYPE 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VDIDCSQKYVVYDQS$QDVA$LSSpCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRCFFG 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LPSG-GKCLLLDCRPFLAHSAGYILGSVNVRCNTIVRRR-AKGSVSLEQILPAEEEVRAR 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               , Tongtong
ur, Chaitanya
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; Score 453; DB 4; Length 394; Pred. No. 5.5e-31; 73; Mismatches 143; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -GERGKTPATP-----TSQFVFSFPV-SVG 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               THE THERAPY AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels 46;
```

Gaps

96

```
밁
                                                                                                                                                                                                                                                                       ঠ
                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 11
US-09-589-184-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                         र्
                                                                                                                                                   문
                                                                                                                                                                                             δ
                                                                                                                                                                                                                                          용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-589-184-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 120; Conservat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILE REFERENCE: 210121.478C8
CURRENT APPLICATION NUMBER: US/09/589,184
CURRENT FILING DATE: 2000-06-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Mannion, Jane
APPLICANT: Mannion, COMPOSITIONS AND METHODS FOR THERAPY
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C8
FILE REFERENCE: 210121.478C8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 394
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                $ 805, 55
6686447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240 VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNENFLGQLLDYEKKIK 299
374 VHSAPSSLPYL--HSPITTSPS 393
                                                                                                                                                                                                                                                                                180 IQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC
                                                                                                                                                                                                                                                                                                                                                              135 LCEGKSTL-----VPTCISQP----CLPVA----NIGPTRILPNLYLGCQRDVLNKEL 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360 VPSVPSVQPSLLEDSPLVQALS 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          336 ATSCAAEAAS-----PSGPL-----GERGKTPATP----TSQFVFSFPV-SVG 373
                                                                                                                                                                                                                                                                                                                                                                                                      97 LRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSEYPE 156
                                                                                                                                                                                                                                                                                                                                                                                                                                              77 VDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRCFPG 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      39 LPSG-GKCLLLDCRPFLAHSAGYILGSVNVRCNTIVRRR-AKGSVSLEQILPAEEEVRAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19 LESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELI--QHSAKHK 76
                                     VPSVPSVQPSLLEDSPLVQALS 381
                                                                                                                 NOTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPAS 359
                                                                                                                                                         VLVHCQAGISRSATICLAYLMMKKRVRLEEAFEFVKQRRSIISPNFSFMGQLLQFESQVL.335
                                                                                                                                                                                                  VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIK 299
                                                                                                                                                                                                                                          LDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFMEAIEYIDAVKDCRGR
                                                                                                                                                                                                                                                                                                                        FCSKTKALAAIPPPVPPSATEPLDLDCSSCGTPLHDQEGPVEILPFLYLGSAYHAARRDM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VHSAPSSLPYL--HSPITTSPS 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPAS 359
                                                                              ATSCAAEAAS-----PSGPL---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bangur, Chaitanya
Lodes, Michael A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Carter, Darrick
Retter, Marc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fanger, Gary
Vedvick, Tom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Application US/09589184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chaitanya S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13.3%; Score 453; DB 4; Length 394; 31.4%; Pred. No. 5.5e-31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  73; Mismatches 143; Indels
                                                                              -GERGKTPATP----TSQFVFSFPV-SVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                          275
                                                                                                                                                                                                                                                                                  239
                                                                                                                                                                                                                                                                                                                          216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      96
```

```
밁
                                                                        5
                                                                                                                밁
                                                                                                                                               á
                                                                                                                                                                                             밁
                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-530-290-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-530-290-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: Marshal
APPLICANT: Ashwort
APPLICANT: Hughes,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 23,
                                                                                                                                                                                                                                                                                                                                                           Matches 119;
                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 2
SEQUENCE CHARACTERISTICS:
LENGTH: 394 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION DATA:
PRIOR APPLICATION NIMBER: WO PCT/GB94/00694
                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: 08
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE: 07-APR-1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: 10-FEB-1994 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: 31-MAR-
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRANDEDNESS:
TOPOLOGY: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 34,774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CITY: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
                                     217 LDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFMEAIEYIDAVKDCRGR
240 VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIK 299
                                                                                                                                                        135 LCEGKSTL-----VPTCISQP----CLPVA----NIGPTRILPNLYLGCQRDVLNKEL
                                                                                                                                                                                               97
                                                                                                                                                                                                                                                                          39 LPSG-GKCLLLDCRPFLAHSAGYILGSVNVRCNTIVRRR-AKGSVSLEQILPAEEEVRAR
                                                                                                                                                                                                                                     77 VDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRCFPG 134
                                                                                                                                                                                                                                                                                                                    19 LESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELI--QHSAKHK 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            94111-3834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3, Application US/08530290
5958721
                                                                             IQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC
                                                                                                                  FCSKTKALAAIPPPVPPSATEPLDLDCSSCGTPLHDQEGPVEILPFLYLGSAYHAARRDM 216
                                                                                                                                                                                               LRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSEYPE 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       E: Townsend and Townsend and Crew LLP Two Embarcadero Center, Eighth Floor
                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hughes, David Anthony
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (415) 576-0300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ashworth, Alan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Marshall, Christopher John
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14-DEC-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                       peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   31-MAR-1994
                                                                                                                                                                                                                                                                                                                                                       13.0%; Score 445; DB 2; I
31.2%; Pred. No. 2.7e-30;
ative 73; Mismatches 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Methods for Screening of Substances for Therapeutic Activity and Yeast for Use Therein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GB 9307250.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GB 9402573.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US/08/530,290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  23:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               084611-000000US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                               Length 394;
                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                               239
                                                                                                                                                                                                                                                                              96
```

```
APPLICANT: Lodes, Michael A.
APPLICANT: Fanger, Gary
APPLICANT: Vedvick, Tom
APPLICANT: Carter, Darrick
APPLICANT: Retter, Darrick
APPLICANT: Retter, Marc
APPLICANT: Retter, Marc
APPLICANT: Retter, Marc
ITILE OF INVENTION: COMPOSITIONS AND METHODS FOR
ITILE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C14
CURRENT APPLICATION NUMBER: US/99/702,705
CURRENT FILLING DATE: 2000-10-30
NUMBER OF SEQ ID NOS: 1833
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 827
LENGTH: 394
TYPE: PRT
ORGANISM: Homo sapiens
US-09-702-705-827
                                                                                                                              밁
                                                                                                                                                          5
                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                       Ś
RESULT 14
                                                                                                                                                                                                                                                                              뭥
                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 13
US-09-702-705-827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뭉
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 13.0%; Score 445; DB 4; Length 394; Best Local Similarity 31.4%; Pred. No. 2.7e-30; Matches 120; Conservative 75; Mismatches 141; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: Wang, T
APPLICANT: Bangur,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 827, Application US/09702705 Patent No. 6504010
                                                       374
                                                                                        360
                                                                                                                                                          300 NQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPAS
                                                                                                                                                                                                         276
                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                         157
                                                                                                                                                                                                                                                                                                                                                                                     135 LCEGKSTL-----VPTCISQP-----C-LPVANI-GPTRILPNLYLGCQRDVLNKEL 179
                                                                                                                                                                                                                                                                            217 LDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFMEAIEYIDAVKDCRGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360 VPSVPSVQPSLLEDSPLVQALS 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 336 ATSCAAEAAS------PSGPL-----RERGKTPATP----TSQFVFSFPV-SVG 373
                                                                                                                                                                                                                                                                                                                                                                                                                                   97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19
                                                                                      VPSVPSVQPSLLEDSPLVQALS 381
                                                                                                                              ATSCAAEAAS----
                                                                                                                                                                                                                         VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIK 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bangur, Chaitan,
Lodes, Michael /
Fanger, Gary
                                                     VHSAPSSLPYL -- HSPITTSPS 393
                                                                                                                                                                                                   VLVHCQAGISRSATICLAYLMMKKRVRLEEAFEFVKQRRSIISPNFSFMGQLLQFESQVL
                                                                                                                                                                                                                                                                                                                                                 FCSKTKALAAIPPPVPPSATEPLDLGCSSCGTPLHDQGGPVEILPFLYLGSAYHAARRDM 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LPSG-GKCLLLDCRPFLAHSAGYILGSVNVRCNTIVRRR-AKGSVSLEQILPAEEEVRAR 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LESGTEKVLLIDSRPFVEYNTSHILBAININCSKLMKRRLQQDKVLITELI--QHSAKHK 76
                                                                                                                                                                                                                                                                                                              IQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC 239
                                                                                                                                                                                                                                                                                                                                                                                                                               LRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSEYPE 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                VDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRCFPG 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VHSAPSSLPYL--HSPITTSPS 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -PSGPL-----RERGKTPATP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FOR THE THERAPY AND
                                                                                                                          TSQFVFSFPV-SVG 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                   335
                                                                                                                                                                                                                                                                            275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       359
```

APPLICANT: APPLICANT: APPLICANT: APPLICANT:

Fanger, Gary Vedvick, Tom Carter, Darrick Retter, Marc Mannion, Jane

APPLICANT:

Bangur, Chaitan Lodes, Michael

Tongtong ur, Chaitanya

ຜ

US/09614124B

```
RESULT 15
US-09-614-124B-827
JS-09-614-124B-827
Sequence 827, Application U
Patent No. 6630574
PATECANT: WAND, TONGCONG
APPLICANT: Bangur, Chaita:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Wang, Aijun
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C15
CURRENT APPLICATION NUMBER: US/09/736,457
CURRENT FILING DATE: 2000-12-13
NUMBER OF SEQ ID NOS: 1864
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 827
LENGTH: 394
TYPE: PRT
ORGANISM: Homo sapiens
US-09-736-457-827
                                                                                                                                                                                  밁
                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                    뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-736-457-827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 13.0%; Score 445; DB 4; L
Best Local Similarity 31.4%; Pred. No. 2.7e-30;
Matches 120; Conservative 75; Mismatches 141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 827, Application US/09736457
Patent No. 6509448
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                   360 APSABADASTIBADABASATS 381
                                                                                                                                                                                                                                                             336 ATSCAAEAAS--
                                                                                                                                                                                                                                                                                              300 NQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPAS
                                                                                                                                                                                                                                                                                                                                     276 VLVHCQAGISRSATICLAYLMMKKRVRLEEAFEFVKQRRSIISPNFSFMGQLLQFESQVL
                                                                                                                                                                                                                                                                                                                                                            240 VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIK 299
                                                                                                                                                                                                                                                                                                                                                                                                                  217 LDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFMEAIEYIDAVKDCRGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                        180 IQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               157 FCSKTKALAAIPPPVPPSATEPLDLGCSSCGTPLHDQGGPVEILPFLYLGSAYHAARRDM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    135 LCEGKSTL-----VPTCISQP-----C-LPVANI-GPTRILPNLYLGCQRDVLNKEL 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       39 LPSG-GKCLLLDCRPFLAHSAGYILGSVNVRCNTIVRRR-AKGSVSLEQILPAEEEVRAR 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   77 VDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRCFPG 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19 LESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELI--QHSAKHK
                                                                                                                                                                                VHSAPSSLPYL--HSPITTSPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSEYPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Fanger, Gary
Vedvick, Tom
Carter, Darrick
Retter, Marc
Mannion, Jane
Fan, Liqun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Wang, Tongtong
Bangur, Chaitanya
Lodes, Michael A.
                                                                                                                                                                                                                                                             PSGPL---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                             -RERGKTPATP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 394;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                             -TSQFVFSFPV-SVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                           373
                                                                                                                                                                                                                                                                                                                                                                                                                                                          239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              156
                                                                                                                                                                                                                                                                                                                                                                                                                    275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               216
```

Ç

```
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THERAPY AND TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER; FILE REPERENCE: 210121.478C9
; CURRENT APPLICATION NUMBER: US/09/614,124B; CURRENT FILING DATE: 2001-07-11
; NUMBER OF SEQ ID NOS: 1668
; SOOTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 827
; SEQ ID NO 827
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-614-124B-827
                                                                                                                                                                                                                                                                                                                                      Ś
Search completed: June 21, 2004, 13:25:43 Job time : 23.6939 secs
                                                                                                                                             S
                                                                                                                                                                                                밁
                                                                                                                                                                                                                                              ঠ
                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 13.0%; Score 445; DB 4; Length 394; Best Local Similarity 31.4%; Pred. No. 2.7e-30; Matches 120; Conservative 75; Mismatches 141; Indels 46;
                                                                                            374 VHŚAPSSLPYL--HSPITTSPS 393
                                                                                                                                             360 VESVESVQESTIEDSELVQALS 381
                                                                                                                                                                                              336 ATSCAAEAAS---
                                                                                                                                                                                                                                              300 NQTGASGPKSKLKLLHLEKPNEPVPAVSEGGQKSETPLSPPCADSATSEAAGQRPVHPAS 359
                                                                                                                                                                                                                                                                                             276 VLVHCQAGISRSATICLAYLMMKKRVRLEEAFEFVKQRRSIISPNFSFMGQLLQFESQVL 335
                                                                                                                                                                                                                                                                                                                         240 VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIK 299
                                                                                                                                                                                                                                                                                                                                                                                              217 LDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFMEAIEYIDAVKDCRGR 275
                                                                                                                                                                                                                                                                                                                                                                                                                                       180 IQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             157 FCSKTKALAAIPPPVPPSATEPLDLGCSSCGTPLHDQGGPVEILPFLYLGSAYHAARRDM 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            135 LCEGKSTL-----VPTCISQP-----C-LPVANI-GPTRILPNLYLGCQRDVLNKEL 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97 LRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSEYPE 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             77 VDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRCFPG 134
                                                                                                                                                                                              ----PSGPL----RERGKTPATP----TSQFVFSFPV-SVG 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                               239
```

This Page Blank (uspto)

```
Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           on:
 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B B
                   409
377.5
351.1
319
289
223.5
222.5
220.5
207.5
207.5
207.5
207.5
195.5
195.5
195.5
193.1
193.1
193.5
193.5
193.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              веq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein search, using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 June 21, 2004, 13:15:52 ; Search time 10.3061 Seconds (without alignments) 2818.703 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-029-345A-109_COPY_1_302
1564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PIR_78:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            283366 seqs, 96191526 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BLOSUM62
226.5
226.5
224.1
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
222.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
220.4
200.4
200.4
200.4
200.4
200.4
200.4
200.4
200.4
200.4
200.4
200.4
200.4
200.4
200.4
200.4
200.4
200.4
200.4
200.4
200.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MAHEMIGTQIVTERLVALLE.....PNFNFLGQLLDYEKKIKNQT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
367
                                                                                                                                                                                                                                                                                                                                                                                                      367
314
393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gapext 0.5
                                                                                         I49365
S31304
T03074
A47196
G84458
I49364
S44538
                                                                                                                                                                                                                                                                   T32494
T39698
T16056
T21380
T18915
                                                                                                                                                                                                                                                                                                                                                                I38890
T46405
                                                                                                                                                                                                                                                                                                                                                                                                      B57126
A56947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               급
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          T15969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUMMARIES
                                                                                                                           hypothetical prote hypothetical prote protein tyrosine p hypothetical prote hypothetical prote hypothetical prote hypothetical prote hypothetical prote low-molecular-mass protein tyrosine p protein-tyrosine-p dual specificity p dual specificity p probable protein tyrosine p protein tyrosine p
                                                                                                                                                                                                                                                                                                                                                                                  dual
                                                       protein-tyrosine-p
dual-specificity M
protein C16A3.1 [i
                                                                                                                                                                                                                                                                                                                                                                                                                        dual
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Description
                                                                                                               probable protein-t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hypothetical
                                                                                                                                                                                                                                                                                                                                                                                specificity
specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      specificity p
                                                                                                                                                                                                                                                                                                                                                                                                                        specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                            specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                            specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              specificity
```

					40										_
117.5	121	127.5	134	134	138.5	144.5	145.5	145.5	145.5	147.5	150.5	152	157	160.5	160.5
7.5	7.7	8.2	8.6	8.6	8.9	9.2	9.3	9.3	9.3	9.4	9.6	9.7	10.0	10.3	10.3
160	928	171	272	150	171	171	171	171	171	597	169	292	209	600	580
N	N	_	N	N	۲	۲	N	N	۲	1	N	N	۲	N	N
T10278	S50578	B47452	T19418	T21489	A42514	QQVZH1	B72161	T28522	I36845	S43743	T30684	S41012	S48459	T18446	T18439
protein tyrosine p	hypothetical prote	dual specificity p	hypothetical prote	hypothetical prote	dual specificity p	dual specificity p	J1L protein - vari	probable dual spec	dual specificity p	probable dual spec	probable dual spec	hypothetical prote	probable dual spec	hypothetical prote	hypothetical prote

ALIGNMENTS

```
RESULT 2
524411
dual specificity phosphoprotein phosphatase (EC 3.1.3.-) 1 - mouse
N.Alternate names: 3CH134 protein; protein-tyrosine-phosphatase erp, nonrece
N.Alternate names: 3CH134 protein; protein-tyrosine-phosphatase erp, nonrece
N.Alternate names: 3CH134 protein; protein-tyrosine-phosphatase erp, nonrece
N.Alternate names: 3CH134 protein; protein-tyrosine-phosphatase erp, nonrece
C:Species: Nus musculus (house mouse)
C:Date: 19-Fe-1994 #sequence_revision 02-May-1994 #text_change 11-Jun-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R;Chissoe, S.
submitted to the EMBL Data Library, July 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       hypothetical protein F08B1.1 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #tcC;Date: 20-Sep-1999 #tcC;Accession: T15969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
T15969
                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Cross-references: EMBL:U23178; NID:g726421; PID:g726422; PIDN:AAC46719.1; CESP:F08B1.1
A;Experimental source: strain Bristol N2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Status: preliminary; translated A;Molecule type: DNA A;Residues: 1-619 <CHI>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Description: The sequence A; Reference number: Z18439 A; Accession: T15969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Introns: 22/2; 57/1; 99/1; 160/3; 252/2; 549/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gene: CESP:F08B1.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                   158
                                                                                                                                                                                                                                                                                                                                           123 GGFAEFSRCFPGLCEGKS--TLVPTCISQPCL--PVANIGPTRILPNLYLGCQRDVLNKE 178
                                                                                                                                                                                                                                                                                                                                                                                                                  99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 90;
                                                                                                                                                                                                               GCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYE 295
                                                                                                                                                                                                                                                                                                                 ### HIDALDISVVINLSMTCPKSVCIKEDKNFMRIPVNDSYQEKLSPYFPMAYEFLEKCRRAG 217
                                                                                                                                                                                                                                                                                                                                                                                                                GGFKQFAQQYPQLCESSEGMTRLPQSLSQPCLSQPTGD-GITLITPNIYLGSQIDSLDET 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28.8%; Score 450; DB 2; 50.6%; Pred. No. 2.3e-29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 34; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20-Sep-1999 #text_change 20-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cosmid F08B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 619;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
```

A;Reference number: A54681; MUID:93360956; PMID:8355678
A;Accession: A54681 C;Accession: A54681; S24411
R;Noguchi, T:; Metz, R:; Chen, L:; Mattei, M.G.; Carrasco, Mol. Cell. Biol. 13, 5195-5205, 1993
A;Title: Structure, mapping, and expression of erp, a grown

D.; Bravo,

nonreceptor type

10

factor-inducible

gene

encod

A; Molecule type: DNA A; Residues: 1-367 < NOG>

A;Cross-references: GB:S64851; NID:g409976; PIDN:AAB27882.1; PID:g409977

```
A; Map position: 8p21-8p11.2
C; Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity C; Keywords: phosphoprotein; phosphotic monoester hydrolase P;203-334/Domain: VH1-type dual specificity phosphoprotein phosphatase homology <VH1>P;280/Active site: Cys (phosphocysteine intermediate) #status predicted
                                                                                                                                                     A; Cross-references:
                                                                                                                                                                      A;Gene: GDB:DUSP4; HVH2; MKP-2
                                                                                                                                                                                                                                                                          R;Guan, K.L.; Butch, B. 7197-7203, 1995
J. Biol. Chem. 270, 7197-7203, 1995
A;Title: Isolation and characterization of A;Reference number: A56115; MUID:95221370; A;Accession: A56115
                                                                                                                                                                                                                            A; Molecule type: mRNA
A; Residues: 1-394 <GUA>
                                                                                                                                                                                                                                                                                                                                                                                           N;Alternate names:
C;Species: Homo sar
C;Date: 19-Oct-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ş
                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A/Gene: erp
A/Introns: 1.
C/Superfamil:
C/Keywords:
F/181-312/Dor
F/258/Active
F/264/Bindin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                             Cross-references:
                                                                                                                                                                                                                                               Status: preliminary; not compared with conceptual translation
                                                                                                                                                                                                                                                                                                                                                               ual specificity phosphoprotein phosphatase (EC 3.1.3.-) 4 - human
Alternate names: dual specificity phosphatase HVH2
Species: HOMPO sapiens (man)
;Date: 19-Oct-1995 #sequence_revision 19-Oct-1995 #text_change 24-Apr-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Cross-references:
C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Title: cDNA sequence of a growth factor-inducible immediate early gene A;Reference number: S24411; MUID:92158357; PMID:1741163
A;Accession: S24411
A;Molecule type: mRNA
A;Residues: 1-367 cCHA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R; Charles, C.H.; Abler, A.S.; Lau, Oncogene 7, 187-190, 1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;Introns: 123/1; 172/1; 245/1
;Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity;
;Keywords: immediate-early protein; phosphoprotein; phosphoric monoester hydrolase;
;181-312/Domain: VH1-type dual specificity phosphoprotein phosphatase homology <VH1>
;258/Active site: Cys (phosphocysteine intermediate) #status predicted;
;264/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;Molecule type:
;Residues: 1-367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                104;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     :: č
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VQS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDBAYRFVKEKRPTISPNFNFLGQLLDYB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGGRVFVHCQAGISRSATICLAYLMRTNRVKLDBAFBFVKQRRSIISPNFSFMGQLLQFB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RKDMLDALĞITALINVSANCPN-HFEGHYQYKSIPVEDNHKADISSWENEAIDFIDSIKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1-367 <CHA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NKELIQONGIGYVINASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PEĽĆSKOŚT--PTGLSLPLSTSVPDSAESGĆSSCSTPLYDQGĠĖVEĬĹSFLYLGSAYHAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PGLCEGKSTLVPTCISQP----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GRLLAGAYHAVVILDERSASLDGAKRDGTLALAAGALCREARSTQVFFLQGGYEAFSASC 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HKVDIDCSQKYVVYPQS$QDVASLSSDCFLTVLLGKL--EKSFNSVHLLAGGFAEFGRCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LRALLREGAAQCLLLDCRSFFAFNAGHTAGSVNVRFSTIVRRRAKGAMGLEHIVPNAELR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LVALLESGTEKVLLIDSRÞFVEYNTSHILEAININCSKLMKRRLQQDKVLITELIQHSAK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                     GDB: 433893
                                                                                                                                                                                                         GB:U21108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL:X61940; NID:g49735; PIDN:CAA43944.1;
           27.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        27.2%;
       Score 423;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 425; DB 1;
Pred. No. 1.4e-27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            L.F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                        a novel dual PMID:7535768
     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -CLPVANI-----GPTRILPNLYLGCQRDVL 175
     <u>ب</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   129;
Length 394;
                                #status predicted predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 367;
                                                                                                                                                                                                                                                                                                     specific
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                               phosphatase,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PID:g49736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      72
                                                                                                                                                                                                                                                                                             HVH2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            characteri
                                                                                                                                                                                                                                                                                             whic
         밁
                                    Ş
                                                                          밁
                                                                                                         Ś
                                                                                                                                               밁
                                                                                                                                                                            Š
                                                                                                                                                                                                                    뫄
                                                                                                                                                                                                                                                 Ş
```

밁 S

```
A;Description: catalyzes the hydrolysis of peptidyl-phosphoserine, -phosphothreonine, C;Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity c;Superfamily: dual specificity phosphoric monoester hydrolase
C;Keywords: nucleus; phosphoprotein; phosphoric monoester hydrolase
F;140-160/Region: nuclear location signal
F;180-311/Domain: VH1-type dual specificity phosphoprotein phosphatase homology <VH1>
F;257/Active site: Cys (phosphocysteine intermediate) #status predicted
F;263/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Gene: GDB:DUSP2
A;Cross-references: (
A;Map position: 2q11-
C;Function:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C.Accession: A57126
R;Rohan, P.J.; Davis, P.; Moskaluk, C.A.; Science 259, 1763-1766, 1993
A;Title: PAC-1: a mitogen-induced nuclear A;Reference number: A57126; MUID:93206122;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Residues:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A,Status: nucleic acid sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 4
A57126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               dual specificity phosphoprotein phosphatase (EC 3.1.3.-) 2 - hum, N;Alternate names: mitogen-induced nuclear tyrosine phosphatase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Accession: A57126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;Species: Homo sapiens (man)
;Date: 03-Nov-1995 #sequence_revision 02-Jul-1996 #text_change 11-Jun-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   멍
                                                                                                                                                                                                                                                                                                                    Local
                      196
                                                                                                                         129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                          85
                                                                                                                                                                                                                                                                                                 109;
                                                                                                                                                                                            73
                                                                                                                                                                                                                                         24 EKVLLIDSRPFVEYNTSHILEAININCSKLMKRR------LQQDKVLITELIQHS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        157 FCSKTKALAAIPPPVPPSATEPLDLGCSSCGTPLHDQGGPVBILPFLYLGSAYHAARRDM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180 IQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC
                ACGITAVLNVSASCP---
                               QNGIGYYLNASYTCPKPDFIPESHF------LRVPVNDSFCEKILPWLDKSVDFIEKAKA
                                                                                                                                                                                                                                                                                                            Similarity
                                                                   QGCCPDLCSEAPAPALPPTGDKTSRSDSRAPVYDQGGPVEILPYLFLGSCSHSSDLQGLQ
                                                                                                                SRCFPGLC-EGKSTLVP--
                                                                                                                                                                      AKHKVDIDCSQKVVVYPQSSQDVASLSSD----CFLTVLLGKLEKSFNSVHLLAGGFAEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1-314 <ROH>
                                                                                                                                                                                                         ERTLLLDCKPFLAFCRRHVRAARPVPWNALLRKRARGPPAAVLACLLPDRALRTRLVRGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VĽVHĊQĀĠĪŚŖŚĀŢĪCLĀŶLMMKKRVRĹBĒĀFEFVKQRŔSIĪŚÞŃĖSFMĠQĹĹQFĒSQV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKI 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDHHKADISSWFMEAIEYIDAVKDCRGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2q11-2q11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LCEGKSTL-----VPTCISQP-----C-LPVANI-GPTRILPNLYLGCQRDVLNKEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSEYPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VDIDCSQKYVVYPQS$QDVA$LSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRCFPG 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LPŚĠ-GKCĹĹĹĎCŔÞĖLAHSAGYĹĹGSVŇVRČNTIVRŘŘ-AKGSÝSLEQILPAEEEVRAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELI--QHSAKHK 76
                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GDB:139200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GB:L11329; NID:g559539; PIDN:AAA50779.1; PID:g292376
                                                                                                                                      ARAVVLDEGSASVAELRPDSPAHVLLAALLHETRAGPTAVYFLRGGFDGF
                                                                                                                                                                                                                                                                                                          26.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              33.4%;
                                                                                                                                                                                                                                                                                         45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       not
                                                                                                                                                                                                                                                                                                   Score 418; DB 1;
Pred. No. 4.2e-27;
                                                                                                  --TCISQPCLPVANI-GPTRILPNLYLGCQRDVLNKELIQ
-NHFEGLFRYKSIPVEDNQMVEISAWFQEAIGFIDWVKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pred. No. 2.2e
3; Mismatches
                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein tyrosine; PMID:7681221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kearns,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      . 2.2e-27;
ches 114;
                                                                                                                                                                                                                                                                                      105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .¥
.;
                                                                                                                                                                                                                                                                                                                  Length 314;
                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Krutzsch,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      human
ase; phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                н.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22;
                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Siebenlist,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                 235
                                                                                                    181
                                                                                                                                        135
                                                                                                                                                                        128
                                                                     195
                                                                                                                                                                                                           84
                                                                                                                                                                                                                                             72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      334
                                                                                                                                                                                                                                                                                                                                                                                                                              specificity i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0£
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               activat
```

Tue

Ŷ

```
R; Kwak, S.P.; Hakes, D.J.; Martell, K.J.; Dixon, J.E.

J. Biol. Chem. 269, 3596-3604, 1994

A; Title: Isolation and characterization of a human dual specificity protein-tyrosine pho A; Reference number: A53052; MUID:94148864; PMID:8106404

A; Accession: A53052

A; Molecule type: DNA

A; Residues: 1-367 < KWA>

A; Experimental source: leukocyte

A; Note: sequence extracted from NCBI backbone (NCBIN:143800, NCBIN:143802, NCBIN:143804, C; Genetics:

C; Genetics:

A; Gene: GDB:DUSP1; PTPN10

A; Gross -references: GDB:136197; OMIM:600714

A; Map position: 5934-5934

C; Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity composition monoester hydrolase; stress-induced prist in type dual specificity phosphorotein phosphatase homology <VH1>
F; 258/Active site: Cys (phosphocysteine intermediate) #status predicted

F; 264/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nature 359, 644-647, 1992

A;Title: Oxidative stress and heat shock induce a human gene A;Ritle: oxidative stress and heat shock induce a human gene A;Ritle: oxidative stress and heat shock induce a human gene A;Receasion: S29090; MUID:93024952; PMID:1406996

A;Accession: S29090

A;Molecule type: mRNA
A;Residues: 1-367 <KEY>
A;Cross-references: EMBL:X66277; NID:g29980; PIDN:CAA48338.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           dual specificity phosphoprotein phosphatase (EC 3.1.3.-) 1 - human N; Alternate names: protein-tyrosine-phosphatase,
                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R;Keyse,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                 ঠ
                                                                                                                                                                                                                    문
                                                                                                                                                                                                                                                                         ş
                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               á
                                        ક
                                                                                                        밁
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;Species: Homo sapiens (man)
;Date: 25-Feb-1994 #sequence_revision 02-May-1994 #text_change 11-Jun-1999
;Accession: S29090; A53052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cross-references: EMBL:X68277; NID:g29980; PIDN:CAA48338.1; PID:g29981; Kwak, S.P.; Hakes, D.J.; Martell, K.J.; Dixon, J.E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S.M.; Emelie, E.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                249
312 V 312
                                                    298 I 298
                                                                                                                                                                   238
                                                                                                                                                                                                                          193
                                                                                                                                                                                                                                                                                                                                   133
                                                                                                                                                                                                                                                                                                                                                                                       133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    309 TQV 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   75 HKVDIDCSQKVVVVYDQSSQDVASLSSDCFLTVLLGKL--EKSFNSVHLLAGGFAEFSRCF 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13 LRALLGERAAQCLLLDCRSFFAFNAGHIAGSVNVRFSTIVRRRAKGAMGLEHIVPNAELR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15 LVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELIQHSAK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                             GCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKK 297
                                                                                                                                                                                                                          DMLDALGITALINVSANCPN-HFEGHYQYKSIPVEDNHKADISSWFNEAIDFIDSIKNAG
                                                                                                                                                                                                                                                                            ELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASN
                                                                                                                                                                                                                                                                                                                                                                                             PGLCEGK-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                  GRLLAGAYHAVVLLDERSAALDGAKRDGTLALAAGALCREARAAQVFFLKGGYEAFSASC 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SGGRVLVHCQAGISRSATICLAYLMQSRRVRLDEAFDFVKQRRGVISPNFSFMGQLLQFE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYE
                                                                                                           GRVFVHCQAGISRSATICLAYLMRTNRVKLDEAFEFVKQRRSIISPNFSFMGQLLQFESQ
                                                                                                                                                                                                                                                                                                                                   PELCSKQSTPMGLSLPLSTSVPDSAESGCSSCSTPLYDQGGPVEILPFLYLGSAYHASRK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26.5%; Score 415; DB 1; 33.9%; Pred. No. 9.2e-27;
                                                                                                                                                                                                                                                                                                                                                                                       -STLVFTCISQFCLFVANI-----GFTRILFNLYLGCQRDVLNK 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 367;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        encoding a protein-tyrosing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                308
                                                                                                                                                                                                                                                                               237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     74
                                                                                                                                                                                                                          251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    non
```

RESULT

```
dual specificity phosphatase (EC 3.1.3.-) 1 - rat
N;Alternate names: protein-tyrosine-phosphatase CL100; protein-tyrosine-phosphatase, noni
C;Species: Rattus norvegicus (Norway rat)
C;Date: 07-May-1995 #sequence_revision 21-Jul-1995 #text_change 22-Jun-1999
C;Date: 07-May-1995 #sequence_revision 21-Jul-1995 #text_change 22-Jun-1999
C;Accession: S52265
R;Muda, M.; Schlegel, W.; Arkinstall, S.
submitted to the EMBL Data Library, January 1995
A;Description: Pathways regulating CL100 gene expression in pituitary cells.
A;Reference number: S52265
A;Accession: S52265
A;Accession: S52265
A;Accession: S52265
A;Accession: S52265
A;Cross-references: EMBL:X84004; NID:g642264; PIDN:CAA58828.1; PID:g642265
C;Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity [C;Keywords: phosphoprotein; phosphoprotein phosphoprotein phosphatase homology <VH1>
F;258/Active site: Cys (phosphocysteine intermediate) #status predicted
F;264/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                 R;Rohan, P.J.; Davis, P.; Moskaluk, C.A.; Kearns, M.; Krutzsch, H.; Sioscience 259, 1763-1766, 1993
A;Title: PAC-1: a mitogen-induced nuclear protein tyrosine phosphatase A;Reference number: A57126; MUID:93206122; PMID:7681221
A;Accession: B57126
                                                                     A;Cross-references: GB:L11330
C;Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity C;Superfamily: dual specificity phosphoric monoester hydrolase
C;Keywords: nucleus; phosphoprotein; phosphoric monoester hydrolase
F;180-311/Domain: VH1-type dual specificity phosphoprotein phosphatase homology <VH1>
F;257/Active site: Cys (phosphocysteine intermediate) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                         dual specificity phosphatase (EC 3.1.3.-) 2 - mouse
N;Alternate names: mitogen-induced nuclear protein-tyrosine-phosphatase
C;Species: Mus musculus (house mouse)
C;Date: 03-Nov-1995 #sequence_revision 03-Nov-1995 #text_change 24-Apr-1
C;Accession: B57126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                 F;263/Binding site:
                                                                                                                                                                                                                         A; Molecule type: mRNA
A; Residues: 1-314 < ROH>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                             A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 233 AKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      293 DYEKKI 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                128 FSRCFPGLCEGK-----STLVPTCISQPCLPVANI-----GPTRILPNLYLGCQR 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          104;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           70 QHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKL--EKSFNSVHLLAGGFAE 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  13 LRALLRERAAQCLLLDCRSFFAFNAGHIVGSVNVRFSTIVRRRAKGAMGLEHIVPNTEL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15 LVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQ-----QDKVLITELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QFESQV 312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DVLNKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEK 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IKDAGGRVFVHCQAGISRSATICLAYLMRTNRVKLDEAFEFVKQRRSIISPNFSFMGQLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HASRKOMLDALGITALINVSANCPN-HFEGHYQYKSIPVEDNHKADISSWFNEAIDFIDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FSASCPELCSKQSTPMGLSLPLSTSVPDSAESGCSSCSTPLYDQGGPVEILSFLYLGSAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ----rgrllagayhavvlldersaaldgakrdgtlalaagalcrearstqvfflqggyea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                       substrate phosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26.5%;
  26.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 415; DB 2;
Pred. No. 9.2e-27;
  Score 409;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                       (Arg)
     멂
                                                       #status predicted
     2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 367
Length 314;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                        H.; Siebenlist,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24-Apr-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                           □
::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             non
```

Best Local

RESULT 9

specificity phosphoprotein phosphatase (EC 3.1.3.-) 5 - human ternate names: dual specificity phosphatase B23; dual-specificity phosphatase

hVH-3,

```
A;Nolecule type: mRNA
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Residues: 1-393 <MIS>
C;Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specificity
C;Kuperfamily: dual specificity phosphoprotein phosphatase homology <VH1>
F;202-33/Domain: VH1-type dual specificity phosphoprotein phosphatase homology <VH1>
T-274/Active site: Cys (phosphocysteine intermediate) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R;Misra-Press, A.; Rim, C.S.; Yao, H.; Roberson, M.S.; Stork, F. J. Biol. Chem. 270, 14587-14596, 1995
A;Title: A novel mitogen-activated protein kinase phosphatase. A;Reference number: A56947; MUID:95301550; pMID:7782322
A;Status: preliminary
A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 8
A56947
A56947
dual specificity phosphatase (EC 3.1.3.-) HVH2 - rat
N;Alternate names: mitogen-activated protein kinase phosphatase
C;Species: Rattus norvegicus (Norway rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Date: 18-Aug-1995 #sequence_revision 18-Aug-1995 #text_change 17-Mar-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Accession: A56947
                                                                     268
                                                                                                         233
                                                                                                                                          209
                                                                                                                                                                          173
                                                                                                                                                                                                              151
                                                                                                                                                                                                                                                                                  93
                                                                                                                                                                                                                                                                                                                     76
                                                                                                                                                                                                                                                                                                                                                       38
                                                                                                                                                                                                                                                                                                                                                                                           16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      129
                                                                                                                                                                                                                                                                                                                                                                                                                            95;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               107; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24
                               DYEKKI
                                                        VKDCRGRVLVHCQAGISRSATICLAYLMMKKRVRLEEAFEFVKQRRSIISPNFSFMGQLL
                                                                                                                           HAARRDMLDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFMEAIEYIDA
                                                                                                                                                               DVLNKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEK
                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
QFESQV
                                                                              AKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNPLGQLL
                                                                                                                                                                                                 SEYPEFCSKTKAL--AAIPPPVPPSTNESLDLGCSSCGTPLHDQGGPVEILFFLYLGSAY
                                                                                                                                                                                                                                                                      EVRPCALASTRLSSSTMTQPARRESPGGQHSVAGRAALRRNAERT--DICLLKGGYERFS
                                                                                                                                                                                                                                                                                                                                          LGLLSGG--KCLLLDCRPFLAHSAGYIRGSVNVRCNTIVRRR-AKGSVSLEQIL--PAEE
                                                                                                                                                                                                                                                                                                                                                                            VALLESGTEKVILIDSRÞFVEYNTSHILEAININCSKLMKRRLQQDKVLITELIQHSAKH
                                                                                                                                                                                                                                          RCFPGLCEGKSTLVPTCISQPCLPVANI---
                                                                                                                                                                                                                                                                                                      KY-----DIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHLLAGGFAEFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACGITAVLNVSASCEN-HFEGLFHYKSIEVEDNOMVEISAWFQEAISFIDSVKNSGGRVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QNGIGYVLNASYTCPKEDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QTYCPDLCSEAPAQALPPAGAENSNSDPRVPIYDQGGPVEILPYLYLGSCNHSSDLQGLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SRCFPGLC-EGKSTLVP----TCISQPCLPVANI-GPTRILPNLYLGCQRDVLNKELIQ 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AKHKVDIDCSQKVVVYPQSSQDVASLSSDCFLTVLLGKLEKSF----NSVHLLAGGFAEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ERTLLLDCRPFLAFCRSHVRAARPVPWNALLRRRAPGTPAAALACLLPDRALRARLGRGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EKVLLIDSRPFVEYNTSHILEAININCSKLMKRR------LQQDKVLITELIQHS
                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -ARAVVLDESSASVTELPPDGPAHLLLAALQHEMRGGPTTVCFLRGGFKSF
                                                                                                                                                                                                                                                                                                                                                                                                                                        24.1%;
31.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          36.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                     54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         45;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 377.5; DB 2;
Pred. No. 1.3e-23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches 124;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                    1.3e-23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2.4e-26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        113;
                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 393;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                     GPTRILPNLYLGCQR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P.J.S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Structure,
                                                                                                                                                                                                                                                                                                                                                                                                                 33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    32;
                                                                                           292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            expression,
                                                            327
                                                                                                                               267
                                                                                                                                                                 232
                                                                                                                                                                                                                                     172
                                                                                                                                                                                                                                                                        150
                                                                                                                                                                                                                                                                                                          129
                                                                                                                                                                                                                                                                                                                                            92
                                                                                                                                                                                                                                                                                                                                                                              75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              128
                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              an
```

밁

S.; Mewes, H.W.; Ga. Sequence Database,

Ś 뮹 Ś 밁 Ś 占 Ş 밁 Ś

밁 á

```
hypothetical protein DKFZp43401321.1 - human C;Species: Homo sapiens (man) C;Date: 04-Feb-2000 #sequence_revision 04-Feb-2000 #text_change 21-Jun-2002 C;Accession: T46405 R;Blum, H.; Bauersachs, S.; Mewes, H.W.; Gassenhuber, J.; Wiemann, S. submitted to the Protein Sequence Database, January 2000
                                                                                                                                    T46405
                                                                                                                                                              RESULT
                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                     $
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Map position: 10q25-10q25
C;Superfamily: dual specificity phosphoprotein phosphatase 1; VH1-type dual specifici
C;Keywords: phosphoprotein; phosphoric monoester hydrolase
F;186-317/Domain: VH1-type dual specificity phosphoprotein phosphatase homology <VH1>
F;663/Active site: Cys (phosphocysteine intermediate) #status predicted
F;269/Binding site: substrate phosphate (Arg) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N;Alternate names: dual specificity phosphatase B23; dual-specific (species: Homo sapiens (man) (c) Species: Homo sapiens (man) (c) Date: 16-Feb-1996 #sequence revision 01-Mar-1996 #text_change 1. C;Accession: 138890; A55313 R;Kwak, S.P.; Dixon, J.E.
J. Biol. Chem. 270, 1156-1160, 1995
A;Title: Multiple dual specificity protein tyrosine phosphatases A;Febrence number: A55432; MUID:95138103; PMID:7836374
A;Accession: 138890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Molecule type: mRNA
A;Residues: 1-8, 'GHV',12-70,'R',72-104,'F',107-362,'RCLPTQQSQSSAEALWQRPNPAKTGMEESAQPQEQL'
A;Cross-references: GB:U15932; NID:g606971; PIDN:AAA64693.1; PID:g606972
A;Experimental source: mammary epithelial cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Experimental source: placenta
R;Ishibashi, T; Bottaro, D.P; Michieli, P.; Kelley, C.;
J. Biol. Chem. 269, 29897-29902, 1994
A;Title: A novel dual specificity phosphatase induced by
A;Reference number: A55313; MUID:95050849; PMID:7961985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Molecule type: mRNA
A;Residues: 1-384 KES>
A;Cross-references: EMBL:U16996; NID:g642012; PIDN:AAB06261.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Cross-references: GDB:385447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Gene: GDB:DUSP5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Accession: A55313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                                                                                                                                                     242
                                                                                                                                                                                                                                                                                                                                                                                                              183
                                                                                                                                                                                                                                                                                                                                                                                                                                                         163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             94;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                      LDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTIS
                                                                                                                                                                                                                                                                   PNFNFLGQLLDYEKKIKNOT
                                                                                                                                                                                                                                                                                                         FQEAIDFIDCVREKGGKVLVHCEAGISRSPTICMAYLMKTKQFRLKEAFDYIKQRRSMVS
                                                                                                                                                                                                                                                                                                                                                                                                LPFLYLGSAYHASKCEFLANLHITALLNVSRRTSEA-CMTHLHYKWIPVEDSHTADISSH
                                                                                                                                                                                                                                                                                                                                                                                                                                           LPNLYLGCQRDVLNKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPW 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGYETFYSEYPECCVDVKPISQEKIESERALISQCGK----PVVNVSYRPAYDQGGPVBI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGFAEFSRCFPGLC----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PDEAARARLLQEGGGVAAVVVLDQGSRHWQKLREESAARVVLTSLLACLPAGPRVYFLK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DIDCSQ------KVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNS---VHLLA 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELIQHSAKHKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LRKEAAARCVVLDCRPYLAFAASNVRGSLNVNLNSVVLRRARGGAV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 351; DB 1
Pred. No. 2e-21;
64; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -EGKSTLVPTCISQPCLPVANI------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-Mar-1996 #text_change 11-Jun-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 384;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   serum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Aaronson,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   stimulation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PID:g642013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        are expressed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SARYVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -GPTRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S.A.
                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 heat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 shoc)
```

```
A;Cross-references: EMBL:AF036685; PIDN:AAB88308.1; GSPDB:GN00022; CESP:C05B10.1
A;Experimental source: strain Bristol N2; clone C05B10
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C;Species
C;Date: 2:
C;Accessi
R;Geisel,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 11
T32494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Reference number: Z23034
A;Accession: T46405
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-303 <AAA>
A;Cross-references: EMBL;AL137704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: DNA
A; Residues: 1-365 <GEI>
A; Cross-references: EMBI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Description: The sequence of A; Reference number: Z21178 A; Accession: T32494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R;Ge18e1, (.; nemocy, ata Library, December 1997, submitted to the EMBL Data Library, December 1997, The sequence of C. elegans cosmid C05B10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 hypothetical protein C05B10.1 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #text_change 29-Oct-1999
                                                                                                                    밁
                                                                                                                                                    S
                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                             ş
                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                        ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Gene: CESP: C05B10.1
A; Map position: 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C; Genetics:
A; Note: DKFZp43401321.1
                              밁
                                                                         ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Experimental source: adult testis; clone DKFZp43401321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;Accession: T32494
;Geisel, C.; Wamsley, P.
                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
mee 72; Conserv
218
                                        181
                                                                               159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            288 І-СОІ-ПОУЕККІ 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             123 GGFAEFSRCFPGLCEGKSTL-----VPTCISQP-----C-LPVANI-GPTRILPNLY
                                                                                                                                                               120 LLAGGFAEFS------RCFPGLCEGKSTLVPTCISOPCLPVANIG-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                       22/2; 46/2; 74/3; 163/2; 204/2; 248/1; 287/2
                                                                                                                                                                                                        66
                                                                                                                                                                                                                                                                                          12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       54
                                                                                                                                                                                                                                                                                                                                                                            80;
                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                      PVKLTNFLYLGNAETAKNRDVLKKYSISHVINVTSNLPNTFEEDPNMRYLRISADDNASH 240
                                                                                                                                                                                                      TVPDLKDLNNSPDQCPEVLLIPGDSEQDEQLSAALARNÍKSNHYRHFVÍGEPVKTLLSQF 125
                                                                                                                                                                                                                                                                                                                              GTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MGQLLQFESQV 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EYIDAVKDCRGRVLVHCQAGISRSATICLAYLMMKKRVRLEEAFEFVKQRRSIISPNFSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LGSAYHAARRDMLDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFMEAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LGCQRDVLNKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGYERFSSEYPEFCSKTKALAAIPPPVPPSATEPLDLGCSSCGTPLHDQGGPVEILPFLY
KILPWLDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEK 277
                                                                               PTRILPNLYLGCQRDVLNKELIQQNGIGYVLNASYTCPKP-DFIPESHFLRVPVNDSFCE
                                                                                                                      PTLRDAADENWNTTFQMNSMPGQASGQQ-----ASSGPLLNLNQLRLEGEDQGGKQRAEF 180
                                                                                                                                                                                                                                               ELIQHSAKHKVDIDCSQKVVVYDQSSQD------VASLSSDCFLTVLLGKLEKSFNSVH 119
                                                                                                                                                                                                                                                                                        GEEISAEQFNRIFHE--RNVIVLDCRS----NGDSVKRANRLRLPALLQRRLMGGSMRLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20.4%; Score 319; DB 2; ilarity 37.7%; Pred. No. 6.5e-19; Conservative 33; Mismatches 70
                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                     18.5%; Score 289; DB 2; Length 365; 24.9%; Pred. No. 2.5e-16; ative 67; Mismatches 134; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 303;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16;
                                                                                                                                                                                                                                                                                                                                                                       40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       172
                                                                                                                                                               158
                                                                                                                                                                                                                                                                                        65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ū
```

```
á
                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          hypothetical protein F13D11.3 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 20-Sep_1999 #sequence_revision 20-Sep-1999 #text_change 23-Mar-2001 C;Accession: T16056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Cross-references: EMBL:AL109652; PIDN:CAB51765.1; GSPDB:GN00067 A;Experimental source: strain 972h-; cosmid c17A3 C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R;Wood, V.; Skelton, J.; Churcher, C.M.; Rajandream, M.A.; Barrell, B.G. submitted to the EMBL Data Library, July 1999
A;Reference number: Z21870
A;Accession: T39698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein tyrosine phosphatase - fission yeast (Schizosaccharomyces pombe)
C;Species: Schizosaccharomyces pombe
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 03-Dec-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
                                                                                                          $
                                                                                                                                                                                                                                            A; Gene: CESP:F13D11.3
A; Introns: 30/3; 57/3; 85/3; 125/3; 172/3
                                                                                                                                                                                                                                                                                                                             A; Molecule type: DNA
A; Residues: 1-186 < FUL>
                                                                                                                                                                                                                                                                                                                                                                                                                 A; Description: The sequence A; Reference number: S69020
                                                                                                                                                                                                                                                                                                                                                                                                                                        submitted to the EMBL Data Library, November 1995 A;Description: The sequence of C. elegans cosmid F13D11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ફ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: DNA
A; Residues: 1-330 < WOO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C; Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                           C;Genetics:
                                                                                                                                                                                                                                                                                                           A; Cross-references:
                                                                                                                                                                                                                                                                                                                                                                      A;Status: preliminary; translated
                                                                                                                                                                                                                                                                                                                                                                                                 A; Accession: T16056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R; Fulton,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  T16056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Map position:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Gene: pi041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Status: preliminary; translated
                                                                                                                                                                            Best
                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12
217 EKILPWLDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDBAYRPVKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            220 LPWLDKSVDPIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRP 279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301 NASIAPNFHFMGQLTDYEKML
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241 NLTKFFPEAISFIDDARRNDSACLVHCLAGISRSVTICLAYLMKTEMCTLDSAYEWVQKR 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               280 TISPNFNFLGQLLDY 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          107 LOYFEKSNKFIAFALSKNAKVLVHCFAGISRSVTLVAAYLMKENNWNTEEALSHINERRS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         160 TRILPNLYLGCQRDVLNKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKI 219
                                                                      12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 48 SEISKNLYISSWKTASELVSTSDKGIDYTLSAMSINPNLS-VPEQQHLWLQIEDSSSQNI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       h 14.3%; Score 223.5; DB 2
Similarity 39.3%; Pred. No. 5.9e-11;
                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           T39698
                                                                                                               TRILPNLYL---GCQRDVLNKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GISPNANFLRQLRVY 181
                                                                    TQVRPHLFLAGYGC----ITPSLLKQYNITHGVDCTNLKTKP--IKGLDRIEVPVDDNTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RPTISPNFNFLGQLLDYEKKI 298
                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                             EMBL: U40939; NID: g1072175; PID: g1072176; PIDN: AAA81700.1; CESP: F13D11
                                                                                                                                                     14.2%; Score 222.5; DB 2; 36.2%; Pred. No. 3.4e-11; ative 31; Mismatches 50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                             from GB/EMBL/DDBC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 2;
                                                                                                                                                          Indels.
                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                     186;
                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     <u>ب</u>
                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                               216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 106
                           276
                                                                      65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             166
```

```
Ş
                                                       밁
                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 15
T18915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       hypothetical protein C04F12.8 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
C;Accession: T18915
                                                                                                                                                                                                                                                                                                                         A;Cross-references: EMBL:Z81461; PIDN:CAB03837.1; GSPDB:GN00019; CESP:C04F12.8 A;Experimental source: clone C04F12
                                                                                                                                                                                                                                                                                                                                                                          A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-272 <WILL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                  submitted to the EMBL Data Library, November 1996 A;Reference number: Z19044 A;Accession: T18915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Gene: CESP: 1/26A3...
A;Map position: 1
A;Introns: 117/2; 150/3; 186/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R;Lloyd,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  submitted to the EMBL Data Library, August 1996
A;Reference number: Z19415
A;Accession: T21380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: EMBL:Z78419; pIDN:CAB01700.1; GSPDB:GN00019; CESP:F26A3.4
A;Experimental source: clone F26A3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   hypothetical protein F26A3.4 - Caenorhabditis elegans C;Species: Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 14
T21380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                     Map position: 1;Introns: 53/1; 84/3; 204/2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 33.6
Matches 47; Conservative
                                                                                                                                    Query Match 13.3%; Score 208; DB 2; Best Local Similarity 33.1%; Pred. No. 8.9e-10; Matches 49; Conservative 31; Mismatches 62
                                                                                                                                                                                                                                                                                     Gene: CESP:C04F12.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Molecule type: DNA; Residues: 1-226 <WIL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Species: Caenorhabditis elegans;Date: 15-Oct-1999 #text_change 15-Oct-1999;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999;Accession: T21380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                McMurray, A.
212 NDSFCEKILPWLDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAY 271
                                                                                      156 NIG----PTRILPNLYLGCQRDYLNKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPV 211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            134 MVRPNLGFWROLIAYEONVK 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          280 TISPNFNFLGQLLDYEKKIK 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        220 LPWLDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRWDMSLDBAYRFVKEKRP 279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              160 TRILPNLYLGCQRDVLNKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKI 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   126 VRPIISPNIGFWROMIDFEKO 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                74 YPHLBLQSDQIQALIADGGKVLVHCVAGVSRSASICLAFLLKYRCRNLREAYHLMKSKRS 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15 SBIVPGLFI-CGVSALSKDEMKKHKITHIINATTEVPNLRSLGDIQRTKLMLEDTPQTYI
                                           4 NVGVLGQMSEINDHLYLS-GAGVLKPDKIKQRKINMIVNATTEEPS-TYMQGVDTMKIRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AKITQYFEPVVKYIEDAKQQGHNTVIYCAAGVSRSATLTIVYLMVTENLSLEEAYLQVNQ 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KRPTISPNFNFLGQLLDYEKK 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13.6%; Score 212.5; DB 2; 33.6%; Pred. No. 3e-10; ative 35; Mismatches 57;
                                                                                                                                                                                     Length 272;
                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 226;
                                                                                                                                         6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   μ·
                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          73
```

```
Db 62 EDHPYARLNEHFDVVADKIRNVKERGGKTLVHCMAGVSRSASLVMIYLVKHEHMTLRQAY 121

Qy 272 RFVKEKRPTISPNFNFLGQLLDYEKKIK 299
```

Search completed: June 21, 2004, 13:23:22 Job time: 11.3661 secs

122 HYVKAARPIIRPNVGFWKOMVDYEKRLR 149

밁

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Title:
Perfect score:
      Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
    1552
988
988
988
988
988
988
988
988
988
467.5
467.5
467.5
467.5
425
423.5
423.5
423.5
423.5
423.5
538.5
385.5
385.5
385.5
205.5
205.5
205.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201.5
201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     June 21, 2004, 13:13:37; Search time 6.55843 Seconds (without alignments) 2397.707 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-029-345A-109_COPY_1_302
1564
1 MAHEMIGTQIVTERLVALLE................PNFNFLGQLLDYEKKIKNQT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     141681 seqs, 52070155 residues
    SwissProt_42:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
    멂
DUSG HUMAN
DUSB MOUSE
DUSA HUMAN
DUSB MOUSE
DUSA HUMAN
DUSA MOUSE
DUSG HUMAN
DUSG MOUSE
DUSG RAT
VHP1 CAEEL
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
DUSG HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              141681
Q9y6w6 homo sapien Q9ess0 mus musculu Q16828 homo sapien Q9dbb1 mus musculu Q64346 rattus norv Q10038 caenorhabdi Q9pw71 gallus gall P28563 mus musculu Q13115 homo sapien Q62767 rattus norv Q05923 homo sapien Q64623 rattus norv Q05922 mus musculu Q9956 homo sapien Q16829 homo sapien Q16829 homo sapien Q16829 homo sapien Q16829 homo sapien Q91246 mus musculu Q8meJ0 homo sapien Q95147 homo sapien Q940724 homo sapien Q8wtr2 homo sapien Q8wtr2 homo sapien Q8wtr2 homo sapien Q8wtr2 homo sapien Q60969 mus musculu Q8wuJ0 homo sapien Q60969 saccharomyc Q951452 homo sapien P51452 homo sapien P51452 homo sapien Q9d7x3 mus musculu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q9by84 homo sapien
Q13202 homo sapien
O09112 mus musculu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Description
```

	\$2.5 \$2.5 \$2.5 \$2.5 \$2.5 \$2.5 \$2.5 \$2.5		8 2	
This SWISS-PROT entry is copyright. It is produc between the Swiss Institute of Bioinformatics the European Bioinformatics Institute. There are use by non-profit institutions as long as it modified and this statement is not removed. Use entitles requires a license agreement (See http: or send an email to license agreement (See http: EMBL; AB052156; BAB440814.1; - EMBL; AB052156; BAB480191.1; ALT_INIT. HSSP; Q16828; 1MKP. Genew, HGRO:17909; DUSP16. MIM; 607175; - G0; GO:0005634; C:nucleus; TAS. GO; GO:0005634; C:nucleus; TAS.	N.A. 332; pubMed=11214970; cuno R., Hattori A., Kondu it the coding sequences of sequences of 100 new cDNA sequences of 100 new cDNA reins in vitro."; 1 involved in the inactival ACTIVITY: Protein tyrosi phosphate ACTIVITY: A phosphoprote ACTIVITY: A phosphoprote R LOCATION: Cytoplasmic (C: Belongs to the protein cor class dual specificity c: Contains 1 rhodances dual	ryota; Metazoa; Chordata; Craniata; Ilia; Eutheria; Primates; Catarrhini TaxID=9606; MCE FROM N.A. INE=21486429; PubMed=11489891; INE=21486449; PubMed=11489891; Ine=2, Shima H., Watanabe M., Kikuch J., Shima H., Watanabe M., Kikuch J., a novel mitogen-activated proteitions as a shuttle protein."; ions as a shuttle protein.";	JMAN STANDARD; PRT; 665 9BY84; Q9C0G3; 3-FEB-2003 (Rel. 41, Created) 9-FEB-2003 (Rel. 41, Last sequence updat 3-FEB-2003 (Rel. 42, Last annotation updat 1al specificity protein phosphatase 16 (41togen-activated protein kinase phospha 10sphatese 7) (MKP-7). 10sphatese 7) (MKP-7). 10sphatese 7) (MKP-7). 10sphatese 7) (MKP-7). 10sphatese 7) (MKP-7).	34 185 11.8 807 1 YB9T YEAST 35 183.5 11.7 276 1 PTPS_CHLEU 36 181.5 11.6 278 1 PMPI_SCHPO 37 178.5 11.4 295 1 DUSF_MOUSE 38 177 11.3 125 1 DUSF_MOUSE 40 171 10.9 489 1 MSGS_YEAST 41 158.5 10.1 340 1 DUSC_HUMAN 42 157 10.0 209 1 YILL_YEAST 43 155 9.9 198 1 DUSD_MOUSE 44 152 9.7 292 1 YO4_CAEEL 45 150 9.6 198 1 DUSD_MOUSE 45 150 9.6 198 1 DUSD_MOUSE
is produced through a collaboration matics and the EMBL outstation. There are no restrictions on its g as its content is in no way ed. Usage by and for commercial see http://www.isb-sib.ch/announce/	ra K., Oharded human geled human geled human gelen brain which kinases. e + H(2)O = e + H(2)O = a protein hosphatase	/ertebrata / Hominida K.; K.;	AA. te) date) (EC 3.1.3.48) (EC 3.1.3.16) stase 7) (MAP kinase	P38148 Baccharomyc Q39491 chlamydomon Q39491 chlamydomon Q13453 BchizoBacch Q9hhirz homo sapien Q8r4v2 mus musculu Q9dotz mus musculu P38590 Baccharomyc Q9uni6 homo sapien P40479 Baccharomyc Q9ui6 homo sapien P34680 Caenorhabdi Q9qyj7 mus musculu Q9qyj7 mus musculu

```
BSDD
                                                                                                                                                                                                                  RESULT 2
                                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 300
                                                            (Duar ),
DUSD8 OR VH5.
HOMO sapiens (Human).
Horrota; Metazoa; Chordata; C;
harvota; Maria; Primates; C
                                                                                                 Q13202;
Q13202;
15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
15-MAR-2004 (Rel. 43, Last annotation update)
Dual specificity protein phosphatase 8 (EC 3.1.3.48)
      SEQUENCE FROM N.A. TISSUE=Fetal brain; MEDLINE=96009533; Pu Martell K.J., Seasho
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR000340; DS_phosphatase.
InterPro; IPR000340; MAPK_phosph.
InterPro; IPR000343; MAPK_phosph.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR000187; TYR_phosphatase.
Pfam; PF00782; DSPc; 1.
Pfam; PF00781; Rhodanese; 1.
PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPc; 1.
SMART; SM00450; RHOD; 1.
SMART; SM00450; RHODANESE 3; 1.
PROSITE; PS00383; TYR_PHOSPHATASE 1; 1.
PROSITE; PS00383; TYR_PHOSPHATASE 2; 1.
PROSITE; PS00383; TYR_PHOSPHATASE 2; 1.
                                                                                                                                                                                           BSUG
                                                                                                                                                                                                       HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
DOMAIN
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      88888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hydrolase,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GO:0004721; F:protein phosphatase activity;
GO:0016311; F:dephosphorylation; TAS.
GO:0000188; F:inactivation of MAPK; TAS.
GO:0045209; F:leptomycin B-sensitive MAPK pt
GO:0045204; P:MAPK nucleus export; TAS.
                                                                                                                                                                                           HUMAN
                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300;
                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     H
                                                                                                                                                                                                                                                                                                     LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNENFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                    Q-
                                                                                                                                                                                                                                                                       ç
                                                                                                                                                                                                                                                                                         LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                    QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILBAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                     QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                 ĹAĠĠFĀĒPŚŖĊFPĠĹĊĒĠĶŚTĹVPTĊĨŚQPĊĹPVĀNĨĠPTŖĨĹPNĹYLĠĊQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                            DKYLITELIQHSAKHKYDIDCSQKYVYYDQSSQDYASLSSDCFLTYLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PS00383; TYR_PHOSPHATASE 1; 1.
PS50056; TYR_PHOSPHATASE 2; 1.
PS50054; TYR_PHOSPHATASE_DUAL;
PS50054; TYR_PHOSPHATASE_DUAL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               665
                                                                                                                                                                                                                                                                       302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nuclear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
    Seasholtz
                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AA:
 PubMed=7561881;
sholtz A.F., Kwa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein.
137
289
244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           73101 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 1552; DI
Pred. No. 2.5e
1; Mismatches
   Kwak S.P.,
                                                                     Craniata; Vertebrata; Catarrhini; Hominidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RHODANESE.

PROTEIN-TYROSINE PHOSPHATASE.

PHOSPHOCYSTEINE INTERMEDIATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1BD853FF08460DFF
  Clemens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .5e-125;
                                                                     Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MAPK phosphatase
ĸ.ĸ.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                              Euteleostomi;
                                                                     Homo
                                                                                                                            (EC
 Dixon
                                                                                                                            3.1.3.16)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ή
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            nuc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TAS
                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
```

```
Ś
                                                           밁
                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                    Š
                                                                                                                                                                                          밁
                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Sim
Matches 190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R GO; GO:0005737; C:cytoplasm; TAS.
R GO; GO:0005725; F:protein tyrosine phosphatase activity; TAS.
R GO; GO:0000188; P:inactivation of MAPK; TAS.
R GO; GO:0000109; P:protein amino acid dephosphorylation; TAS.
R GO; GO:0000470; P:protein amino acid dephosphorylation; TAS.
R InterPro; IPR00340; DS_phosphatase.
R InterPro; IPR00340; DS_phosphatase.
R InterPro; IPR00340; TYR_phosphatase.
R InterPro; IPR00387; TYR_phosphatase.
R InterPro; IPR00387; TYR_phosphatase.
R InterPro; IPR00387; TYR_phosphatase.
R FAST; SM00195; DSPC; 1.
R PRINTS; PR01764; MAPKPHPHTASE.
R SMART; SM00195; DSPC; 1.
R PROSITE; PS50056; RHOD; 1.
R PROSITE; PS50056; RHOD; 1.
R PROSITE; PS50056; TYR_PHOSPHATASE_1; 1.
R PROSITE; PS50056; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS50056; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS50056; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS50056; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS50056; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS50056; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS50056; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS50056; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS50056; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS50056; TYR_PHOSPHATASE_DUAL; 1.
R PROSITE; PS50056; TYR_PHOSPHATASE_DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                              Hydrolase;
DOMAIN
DOMAIN
DOMAIN
DOMAIN
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              M1M; 602038; -. GO; GO:0005737; GO; GO:0004725; GO; GO:0000188; GO; GO:0006470; I
                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/anor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; U27193; AAA83151.1;
HSSP; Q16828; 1MKP.
Genew; HGNC:3074; DUSP8.
MIM; 602038; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "hVH-5: a protein tyrosine phosphatase abundant in brai inactivates mitogen-activated protein kinase.";
J. Neurochem. 65:1823-1833 (1995)
-I- FUNCTION: This protein shows both activity toward to phosphate as well as with serine/threonine-protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tyrosine + phosphate.
-i- CATALYTIC ACTIVITY: A phosphoprotein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    similarity).
-!- CATALYTIC ACTIVITY: Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           phosphate.
TISSUE SPECIFICITY: Abundant in brain, heart and skeleta
SIMILARITY: Belongs to the protein-tyrosine phosphatase
Non-receptor class dual specificity subfamily.
SIMILARITY: Contains 1 rhodanese domain.
                                                           181
                           239
                                                                                            179
                                                                                                                         121
                                                                                                                                                         120
                                                                                                                                                                                        61
                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                       ш
                                                                                                                                                                                                                                                                                        _
CVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKI
                                                                                                                                                                                                                                                                                                                                    Similarity
                                                 LLAGGFAEFSRCFPGLCEGK-STLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKE
                                                                                                                                                                                QCKVTIAELIQPAARSQVEATEPQDVVVYDQSTRDASVLAADSFLSILLSKLDGCFDSVA
                                                                                                                                                                                                                                                                  MAHEMIGTQIV-TERLVALLESGTEKVILIDSRÞFVEYNTSHILEAININCSKLMKRRLQ
                                                                                                                         ILTGGFATFSSCFPGI
                                                                                                                                                                                                           QDKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVH
                                                                                                                                                                                                                                             625
                                                                                                                                                                                                                                                                                                                                                                                                                   23
162
310
246
                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                    AA;
                                                                                                                                                                                                                                                                                                                                                                                  65840
                                                                                                                                                                                                                                                                                                                                   63.2%;
                                                                                                                                                                                                        <del>..</del>
                                                                                                                    CEGKPAALLPMSLSOPCLPVPSVGLTRILPHLYLGSOKDVLNKD
                                                                                                                                                                                                                                                                                                                                                                                  ¥,
                                                                                                                                                                                                                                                                                                                   55;
                                                                                                                                                                                                                                                                                                            Score 988; DB 1; 1
Pred. No. 5.2e-77;
5; Mismatches 54;
                                                                                                                                                                                                                                                                                                                                                                                              PROTEIN-TYROSINE PHOSPHATASE
PRO-RICH.
PHOSPHOCYSTEINE INTERMEDIATE
SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                               RHODANESE
                                                                                                                                                                                                                                                                                                                                                                               DCBEA14487219666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tyrosine phosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  H(2)0
                                                                                                                                                                                                                                                                                                                                               Length 625
                                                                                                                                                                                                                                                                                                                                                                               CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               in brain
                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 + H(2)0 =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               skeletal muscle.
phatase family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tyrosine-protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              phosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               that
                                                                                                                                                                                                                                                                                                                                                                                                                (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein
                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Эγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                  238
                                                                                                                  180
                                                                                                                                                                                120
                                                                                                                                                                                                                119
                                                                                                                                                                                                                                                 60
```

```
DUSB MOUSE

ID DUSB MOUSE

AC 009112;

DT 15-JUL-1999 (
DT 15-JUL-1999 (
DT 15-JUL-1999 (
DE USPB OR NUTTP
OS MUSCULUS

OC ELVEY DUSPB OR NUTTP
OS MUSCHITAXID=10

RN [1] — TAXID=10

RN [1] — TAXID=10

RN [1] — TAXID=10

RN [1] — TAXID=10

RN [1] — TAXID=10

RN [1] — TAXID=10

RN [1] — TAXID=10

RN [1] — TAXID=10

RN [1] — TAXID=10

RN EDLINE=96311;
RA FIECOSIOL A.

RA BLAKE D.J., A

RI HAMM. MOL. Ger
CC -i- FUNCTION:
CC GOTALLYTIC
CC -i- FUNCTION:
CC -i- FUNCTION:
CC -i- FUNCTION:
CC -i- SIMILARIJ
CC -i- CATALLYTIC
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- SIMILARIJ
CC -i- FUNCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                         SMART; SM00195; DSPC; 1.
SMART; SM00450; RHOD; 1.
PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS502083; TYR PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR PHOSPHATASE DUAL;
                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR000340; DS phosphatase.
InterPro; IPR008343; MAPK phosph.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR000387; TYR phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Paterson H., McLellan-Arnold E., Boyd Y., Leversha M.A. Blake D.J., Ashworth A., Davies K.E.; "A member of the MAP kinase phosphatase gene family in containing a complex trinuclectide repeat in the coding Hum. Mol. Genet. 5:675-684(1996).

1- FUNCTION: This protein shows both activity toward to phosphate as well as with serine/threonine-protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=96311565; PubMed=8733137;
Theodosiou A.M., Rodrigues N.R., Nesbit M.A.,
Paterson H., McLellan-Arnold E., Boyd Y., Lev
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last sequence up
10-OCT-2003 (Rel. 42, Last annotation
Dual specificity protein phosphatase E
                                                                                                                                                                                                                                                                  Pfam; PF00782; DSPc; 1.
PRINTS; PR01164; MARKPHPHTASE.
SMART; SM00195; DSPc; 1.
SMART; SM00450; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; X95518; CAA64772.1; HSSP; Q16828; 1MKP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (Neuronal tyrosine DUSP8 OR NTTP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SIMILARITY: Belongs to the protein-tyrosine phosphatase family Non-receptor class dual specificity subfamily. SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    phosphate.
SUBCELLULAR LOCATION: Cytoplasmic and nuclear.
TISSUE SPECIFICITY: Expressed predominantly in brain and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tyrosine + phosphate.
CATALYTIC ACTIVITY: A phosphoprotein + H(2)O =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CATALYTIC ACTIVITY: Protein tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MGI:106626;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QVIVHCLAGISRSATIAIAYIMKTMGMSSDDAYRFVKDRRPSISPNFNFLGQLLEYERTL
                                                                                                                                      Nuclear
        162
152
555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Duapa
        138
432
459
558
576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               threonine
                                                                                                                                      protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .
  RHODANESE.
PROTEIN-TYROSINE |
POLY-ARG.
POLY-SER.
POLY-GLY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata; I
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     n update)
8 (EC 3.1.3.48)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                activity toward tyrosine-protein
                                                                                                                                                                    Ļ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              phosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ambrose H.J.,
ersha M.A., Ow
                                                                                       PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  coding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Euteleostomi;
; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    H(2)0 =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        phosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  region.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Owen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3.1.3.16)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus
```

```
Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OS T T T T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local S
Matches 188
                                                                                                                                                                                                                                                                                                                                                     DUSA HUMAN STANDARD; PRT; 482 AA. 09Y6M6; 28-FEB-2003 (Rel. 41, Created) 28-FEB-2003 (Rel. 41, Last sequence update) 10-OCT-2003 (Rel. 42, Last annotation update) Dual specificity protein phosphatase 10 (EC 3) (Mitogen-activated protein kinase phosphatase phosphatase 1) (MKP-5).
TISSUE=Brain, Lung, and Testis;
MEDLINE=22388257; PubMed=12477932;
Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
Strausberg R.L., Feingold E.A., Grouse L., Shenmen C.M., Schuler
Klausner R.D., Collins F.S., Wagner L., Shenmen C.F., Bhat N.
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.
Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heieh F.
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
                                                                                                              MEDLINE=20065165; PubMed=10597297; Theodosiou A., Smith A., Gillieron C., "MKP5, a new member of the MAP kinase pelectively dephosphorylates stress-act Oncogene 18:6981-6988 (1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                            HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
DOMAIN
                                                                                                                                                                                                                MEDLINE=99321929; PubMed=10391943;
Tanoue T., Moriguchi T., Nishida E.;
"Molecular cloning and characterization
phosphatase, MKP-5.";
                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACT_SITE
                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                              SEQUENCE FROM N.
                                                                                                                                                                                                                                                                   SEQUENCE FROM N.
                                                                                                                                                                                                                                                                                        NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                               Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                              DUSP10 OR MKP5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LLAGGFAEFSRCFPGLCEGKSTLVPT-CISQPCLPVANIGPTRILPNLYLGCQRDVLNKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QKVTIAELIQPATRSQVDATEPQDVVVYDQSTRDASVLAADSFLSILLSKLDGCFDSVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MAHEMIGTQIV-TERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQ
                                                                                                                                                                                                       Chem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QVIVHCLAGISRSATIAIAYIMKTMGMSSDDAYRFVKDRRPSISPNFNFLGQLLEYERSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ILTGGFATFSSCFPGLCEGKPATLPSMSLSQPCLPVPSVGLTRILPHLYLGSQKDVLNKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QDKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LMTQNGISYVLNASNSCPKPDFICESRFMRIPINDNYCEKLLPWLDKSIBFIDKAKLSSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           577
311
246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ã,
                                                                                                                                                                                                       274:19949-19956(1999)
                                                                                                                                                                                                                                                                                                        Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            552
246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            63.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     68847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ¥,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55;
                                                                                                                           lieron C., Arkinstall S., As AP kinase phosphatase family stress-activated kinases.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     POLY-SER.
PRO-RICH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 985; DB 1
Pred. No. 1e-76;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PHOSPHOCYSTEINE INTERMEDIATE
                                                                                                                                                                                                                                                                                                        Craniata; Vo
Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     416F429A12C1FA7C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                of.
                                                                                                                                                                                                                                                                                                                   Vertebrata;
                                                                                                                                                                                                                                                                                                         Hominidae;
                                                                                                                                                                                                                                gu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1;
                                                                                                                                                                                                                              novel dual specificity
                                                                                                                                                                                                                                                                                                                                                                    1.1.3.48)
5) (MAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   56;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CRC64;
                                                                                                                                        S., Ashworth family, which
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                     Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                 (EC 3.1.3.16)
                                                                                                                                          which
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              YB)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <u>ب</u>
                                                                                                                                                      Α.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
```

```
片
                                                  Ś
                                                                                                                                                        Query Match
Best Local
                                                                                        Matches
                                                                                                                                                                            PROSITE; PSS0206; RHODANESE 3; 1.
PROSITE; PSS0206; RHODANESE 3; 1.
PROSITE; PSS00383; TYR PHOSPHATASE 2; 1.
PROSITE; PSS0056; TYR PHOSPHATASE 2; 1.
Hydrolase; Nuclear protein.
Hydrolase; Nuclear protein.
DOMAIN 168 285
DOMAIN 384 453
ACT_SITE 408 408
PHOSPHOCYSTEINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E., RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C., RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J., RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J., RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., RA Richards M., Madan A., Young A.C., Shevchenko Y., Gibbs R.A., Milling M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., RA Rabeley R.W., Touchman J.W., Green E.D., Dickson M.C., RA Rodriquez A.C., Grimwood J., Schentz J., Myers R.M., C., Schein J.E., Jones S.J.M., Marra M.A., "Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences.", Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).

"CC specificity for the MAPKII/MAPKI2/MAPKI4 subfamily." CC CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)0 = protein
                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                Pfam; PF00782; DSPC; 1.
Pfam; PF00581; Rhodanese; 1.
PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPC; 1.
SMART; SM00450; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                  Genew; HGNC:3065; DUSP10.

GO; GO:0005534; C:rytcplasm; TAS.

GO; GO:0005634; C:rucleus; TAS.

GO; GO:0005634; F:protein phosphatase activity; TAS.

GO; GO:000754; P:protein amino acid dephosphorylation; TAS.

GO; GO:0006470; P:protein amino acid dephosphorylation; TAS.

GO; GO:0006470; P:protein amino acid dephosphorylation; TAS.

InterPro; IPR000340; DS phosphatase.

InterPro; IPR000343; MAFK phosph.

InterPro; IPR000343; MAFK phosphatase.

InterPro; IPR000387; TYR phosphatase.

Ffam: PF00782. hcg., TYR phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            phosphate.
SUBCELLULAR LOCATION: Cytoplasmic and nuclear.
SIMILARITY: Belongs to the protein-tyrosine ph
Non-receptor class dual specificity subfamily.
SIMILARITY: Contains 1 rhodanese domain.
                                                    27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tyrosine + phosphate.
CATALYTIC ACTIVITY: A phosphoprotein + H(2)0 = a
                                                                                                Similarity
                       LLIDSRPFVEYNTSHILEAININCS-KLMKRRLQQDKVLITELIQ-HSAKHKVDIDCSQK 84
VIIDCRPPMEYNKSHIQGAVHINCADKISRRRLÓÓGKITVLDLÍSCREGKDSFKRIFSKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   an email to license@isb-sib.ch).
                                                                                                                                                      482
                                                                                                                                                    AA,
                                                                                                                                                 52642 MW;
                                                                                                30.0%;
                                                                                        Score 469;
Pred. No. 1.
                                                                                                                                                           RHODANESE.
PROTEIN-TYROSINE PHOSPHATASE.
                                                                            Pred. No. 1.2
                                                                                                                                           A8CB74ABF9498CD4
                                                                        DB 1;
.2e-32;
.es 96;
                                                                                                     Length 482;
                                                                                                                                         CRC64;
                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               phosphatase family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein +
                                                                    30;
                                                                                                                                                                        (BY
                                                                 Gaps
   232
```

```
RA Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
RA Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Kuchi P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Kuchi P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
RA Blake J., Botelli D., Hofmann M., Hume D.A., Kamiya M., Lee N. H.,
RA Hyons P., Marchionni L., Mashima J., Mazarelli J., Mombaerts P.,
RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
RA Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
RA Havashizaki Y., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                     Hayashizaki Y.;
"Functional annotation of a full-length mouse cDNA collection.";
Nature 409:685-690(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q9ESSO, Q9CZY9;
Q9ESSO, Q9CZY9;
10-OCT-2003 (Rel. 42, Created)
10-OCT-2003 (Rel. 42, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 10 (EC 3.7 (Mitogen-activated protein kinase phosphatase 5) (MKP-5).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=21085660; PubMed=11217851;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          [2]
SEQUENCE FROM N.A.
TISSUE=Embryo;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=20515587; PubMed=11060451; Masuda K., Shima H., Kikuchi K., Watanabe Y., Ma "Expression and comparative chromosomal mapping DUSP10/Dusp10.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mus musculus (Mouse).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
phosphate.
SUBCELLULAR LOCATION: Cytoplasmic and
SIMILARITY: Belongs to the protein-tyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DUSA MOUSE
                                                    tyrosine + phosphate.
CATALYTIC ACTIVITY: A phosphoprotein + H(2)O =
                                                                                                similarity).
CATALYTIC ACTIVITY: Protein
                                                                                                                            FUNCTION: Involved in the inactivation of MAP kinases. Has specificity for the MAPK11/MAPK12/MAPK13/MAPK14 subfamily
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     233 IIVYDENTNEBSRVMPSQPLHIVLESLKREGKEPLVLKGGLSSFKQNHENLCDNSLQLQE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HCLAGISRSATIAIAYINKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VINVTTHLPLYHYEKGLF----NYKRLPATDSNKONLROYFEEAFEFIEEAHOCGKGLLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VLNAS----YTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCVLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CREVGGGASAASSLLÞQÞÍ--ÞTTÞDIENAELTÞÍLÞFLFLGNEQÐAQDLDTMÓRLNÍGÝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----STĻVPTCISQPCLP-VANIGPTRILPNLYLGCQRDVLNKELIQQNGIGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHLLAGGFAEFSRCFPGLCBGK-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Genet.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        90:71-74 (2000)
                                                                                              tyrosine phosphate +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3.1.3.48) (EC 3.1
se 5) (MAP kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matsuda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of MKP-5
                                                                                                                                             kinases. Has
                           (Ву
                                                             a protein
                                                                                             H(2)0 =
                          similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (EC 3.1.3.16)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       187
```

protein-tyrosine

phosphatase

```
JS6 HUMAN
J DUS6 HUMAN
J DUS6 HUMAN
J DUS6 HUMAN
J DUS6 HUMAN
J 01-807 (Rel. 35, Created)
JT 01-NOV-1997 (Rel. 35, Last sequence update)
JT 01-NOV-1997 (Rel. 35, Last annotation update)
DT 10-CCT-2003 (Rel. 42, Last annotation update)
DE Dual specificity protein phosphatase 6 (EC 3.1.3.48) (EC Mitogen-activated protein kinase phosphatase 3) (MAP kinase phosphatase 3) (MXP-3) (Dual specificity protein phosph
                                    RESULT
DUS6_HI
ID DI
AC QI
DT 01
DT 11
DT 11
DE DI
DE DI
DE DI
DE DI
                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                    ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CONFLICT
CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SMART; SM00195; DSPC; 1.

SMART; SM00450; RHOD; 1.

PROSITE; PS50206; RHODAHSE 3; 1.

PROSITE; PS00383; TYR PHOSPHATASE 1; 1.

PROSITE; PS50056; TYR PHOSPHATASE DUAL;

PROSITE; PS50054; TYR PHOSPHATASE DUAL;
                                                                                                                                                          HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pfam; PF00782; DSPc; 1.
Pfam; PF00581; Rhodanese; 1.
PFINTS; PR01764; MAPKPHPHTASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a between the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrictuse by non-profit institutions as long as its content is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro;
                                                                                                                                                                      6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Non-receptor class dual specificity subfamily. SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MGI:1927070; Dusp10.
PPRO00343; DS phosphatase.
PPRO; IPRO08343; MAPK phosph.
PPRO; IPRO01763; Rhodanese-like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; AB037908; BAB
; AK011995; BAB
; Q16828; 1MKP.
                                                                                                                                                                                                                                          243
                                                                                                                                                                                                                                                                                                     188
                                                                                                                                                                                                                                                                                                                                   294
                                                                                                                                                                                                                                                                                                                                                                                          234 IIVYDENTNEPSRVTPSQPLHIVLESIKREGKEPLVIKGGISSFKQNHGNICDNSLQLQE
                                                                                                                                                                                                                                                                                                                                                                                                                                                     174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                106;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                              | HCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                           VINVTTHLPLYHYEKGLF---
                                                                                                                                                                                                                                                                                         VLNAS-----YTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCVLV
                                                                                                                                                                                                                                                                                                                               CREVGGGASAASSMLPQ--SVPTTPDIENAELTPILPFLFLGNEQDAQDLDTMQRLNIGY
                                                                                                                                                                                                                                                                                                                                                                                                                       VVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHLLAGGFAEFSRCFPGLCEGK-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                     VIIDCRPFMEYNKSHIQGAVHINCADKISRRRLQQGKITVLDLISCREGKDSFKRIFSKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LLIDSRPFVEYNTSHILEAININCS-KLMKRRLQQDKVLITELIQ-HSAKHKVDIDCSQK
                                                                                                                                                                                                                 HCQAGVSRSATIVIAYLMKHTRMTMTDAYKFVKGKRPIISPNLNFMGQLLEFEEDLNN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IPR000387;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nuclear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     48
113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               386
409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BAB17680.1;
BAB27966.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         48
113
386
52530 ì
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein.
286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               456
409
                                                                                                                                                                                                                                                                                                                                                          -STLVPTCISQPCLP-VANIGPTRILPNLYLGCQRDVLNKELIQQNGIGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            29.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYR_phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ¥.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                67;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RHODANESE.

PROTEIN-TYROSINE P
PROSPHOCYSTEINE IN
SIMILARITY)
A -> T (IN REF. 2)
P -> S (IN REF. 2)
P -> G (IN REF. 2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 468; DB 1;
Pred. No. 1.5e-32;
7; Mismatches 95
                                                                                                                                                                                                                                                                       3551562355B46F89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ٠
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INTERMEDIATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                95;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 483;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CRC64;
                                   .48) (EC 3.1.3.16)
(MAP kinase
phosphatase PYST1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TEMB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    collaboration
L outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                 465
                                                                                                                                                                                                                                                                          407
                                                                                                                                                                                                                                                                                                                                   351
                                                                                                                                                                                                                                                                                                                                                              187
                                                                                                                                                                                                                                                                                                                                                                                           293
                                                                                                                                                                                                                                                                                                                                                                                                                        139
```

5 밁 밁 ঠ

S

```
RP SEQUENCE FROM N.A. (ISOFORM 1), AND VARIANT VAL-114.

RR TISSUB=Colon, Kidney, Skin, and Stomach;

RX MEDLINE=22388257; PubMed=12477932;

RX MEDLINE=2388257; PubMed=12477932;

RX MEDLINE=2388257; PubMed=12477932;

RX Strausberg R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

RA Altechul S.F., Zeeberg B.S., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Altechul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA HOpkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P. Prange C.,

RA Robertsian M.J., Usdin T.B., Toshiyuki S., Carninci P. Prange C.,

RA Robertsian M.J., Usdin T.B., Toshiyuki S., Carninci P. Prange C.,

RA Robestein M.J., Usdin T.B., Toshiyuki S., Carninci P. Prange C.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Villalon D.K., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Villalon D.K., Worley K.C., Hale S., Sarcia A.M., Gay L.J., Hulyk S.W.,

RA Willialon D.K., Worley K.C., Hale S., Sarcia A.M., Gay L.J., Hulyk S.W.,

RA Willialon D.K., Worley K.C., Hale S., Shevchenko V., Bouffard G.G.,

RA Robriguez A.C., Grinwood J., Schmutz J., Myers R.M.,

RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,

Toman and monuse CNNA semences "."

Toman and monuse CNNA semences "."

Toman and monuse CNNA semences "."
                          This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=99140299; PubMed=10048930; Stewart A.E., Dowd S., Keyse S.M., McDonald N.Q.; Stewart A.E., Dowd S., Keyse S.M., McDonald N.Q.; "Crystal Structure of the MAPK phosphatase Pyst1 catalytic implications for regulated activation."; Nat. Struct. Biol. 6:174-181(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=96312959; PubMed=8670865;
Groom L.A., Sneddon A.A., Alessi D.R., Dowd S., Keyse S.M.;
"Differential regulation of the MAP, SAP and RK/p38 kinases by Pystl,
a novel cytosolic dual-specificity phosphatase.";
EMBO J. 15:3621-3632(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=99077745; PubMed=9858808;
Furukawa T., Yatsuoka T., Youssef
Fukushige S., Soeda E., Hoshi M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  X-RAY CRYSTALLOGRAPHY (2.35 ANGSTROMS)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cytogenet.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Genomic analysis of DUSP6, a dual specificity in pancreatic cancer.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE=Foreskin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. (ISOFORMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A. (ISOFORM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DUSP6 OR MKP3 OR PYST1
                                                                                                                                                                                                                                                                                                                                                                                                                                        CATALYTIC ACTIVITY: Protein tyrosine tyrosine + phosphate. CATALYTIC ACTIVITY: A phosphoprotein
                                                                                                                                                                                                                                                                                         phosphate.
phosphate.
SUBCELLULAR LOCATION: Cytoplasmic.
ALTERNATIVE PRODUCTS:
ALTERNATIVE PRODUCTS:
Named
                                                                                  IsoId=Q16828-1; Sequence=Displayed;
Name=2; Symonyms=DUSP6-ALT;
IsoId=Q16828-2; Sequence=VSP_005137;
SIMILARITY: Belongs to the protein-tyrosine phosphatase
Non-receptor class dual specificity subfamily.
SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FUNCTION: Inactivates MAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           family.
SWISS-PROT entry is copyright. It is produced through a een the Swiss Institute of Bioinformatics and the EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  and mouse cDNA sequences.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cell Genet.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Acad. Sci.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  T., Youssef., Hoshi M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           82:156-159(1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                           phosphoprotein +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         kinases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99:16899-16903 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AND
                                                                                                                                                                                                                                                                                                                    Named isoforms=2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ×.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hayashi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ဝှု
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Нав а
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Abe T
hi Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          phosphate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      204-347
                                                                                                                                                                                                                                                                                                                                                                                                                                                  H(2)0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  T., Yokoyama T., Sunamura M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MAP kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                  n
                                                                                                                                                                                                                                                                                                                                                                                                                                              Q)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          + H(2)O = protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              лт.,
м., Kobari м.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         domain
      collaboration -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and
```

```
SOLUTION CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CON
      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R InterPro; IPRO00340; Ds_phosphatase.

R InterPro; IPRO00343; MAPK_phosph.

R InterPro; IPRO00343; MAPK_phosph.

R InterPro; IPRO00383; TYR_phosphatase.

R InterPro; IPRO00387; TYR_phosphatase.

R Pfam; PF00782; DSPc; 1.

R Pfam; PF00581; Rhodanese; 1.

R PRINTS; PR01764; MAPKPHPHTASE.

R PRINTS; PR00195; DSPc; 1.

R PRAST; SM00195; DSPc; 1.

R SMART; SM00195; DSPc; 1.

R PROSITE; PS00383; TYR_PHOSPHATASE_1; FALSE_NEG.

PROSITE; PS00383; TYR_PHOSPHATASE_2; 1.

R PROSITE; PS00383; TYR_PHOSPHATASE_DUAL; 1.

GW Hydrolase; Polymorphism; Alternative splicing; 3D-structure.
                                                                                                                             TURN
STRAND
TURN
HELIX
HELIX
TURN
STRAND
HELIX
TURN
TURN
HELIX
TURN
HELIX
TURN
TURN
TURN
TURN
TURN
TURN
HELIX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; X93920; CAA63813.1;

EMBL; AB01380; BAA31968.1; JOINED.

EMBL; AB01380; BAA31968.1; JOINED.

EMBL; AB01380; BAA31968.1; JOINED.

EMBL; AB01380; BAA31969.1;

EMBL; AB01380; BAA31969.1;

EMBL; BC003143; AA403143.1;

EMBL; BC003562; AA403562.1;

EMBL; BC005047; AA4055047.1;

EMBL; BC007236; AA407236.1;

EMBL; BC037236; AA407236.1;

EMBL; BC037236; AA407236.1;

EMBL; BC037236; AA407236.1;

EMBL; BC037236; AA407236.1;

EMBL; BC037236; AA407236.1;

EMBL; BC037236; EAA05047;

EMBL; BC037236; EAA05047;

EMBL; BC037236; EAA05047;

EMBL; BC03723; C:cytoplasm; IDA.

GO; GO:0004722; F:protein serine/threc

GO; GO:0004722; F:protein serine/threc

GO; GO:0004725; F:protein serine/threc

GO; GO:0004725; F:protein serine/threc

GO; GO:0004725; F:protein serine/threc

GO; GO:0004725; F:protein serine/threc

GO; GO:0004725; F:protein serine/threc

GO; GO:0004725; F:protein serine/threc

GO; GO:0004725; F:protein serine/threc

GO; GO:0004725; F:protein serine/threc

GO; GO:0004725; F:protein serine/threc

GO; GO:0004725; F:protein serine/threc

GO; GO:0004725; F:protein serine/threc

GO; GO:0004725; F:protein serine/threc

GO; GO:0004725; F:protein serine/threc

GO; GO:0004725; F:protein serine/threc
                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TURN
STRAND
STRAND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TURN
STRAND
TURN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      XITEH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GO:0005737; C:cytoplasm; IDA.
GO:0005625; C:soluble fraction; TAS.
GO:0004722; F:protein serine/threonine phosphatase activity;
GO:0004725; F:protein tyrosine phosphatase activity;
GO:0000188; P:inactivation of MAPK; IDA.
GO:0006470; P:protein amino acid dephosphorylation, Tag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30
206
293
134
                                                                                            AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P:protein amino acid dephosphorylation; TAS
                                                                                     42333
29.9%;
34.1%;
                                                                                     MW;
Score 467.5;
Pred. No. 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Missing (in isoro /FTId=VSP_005137.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /FTId=VAR_015113.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROTEIN-TYROSINE PHOSPHATASE. PHOSPHOCYSTEINE INTERMEDIATE.
                                                                         03BC12252CE73B26 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (in isoform
1.2e-32;
                        DB
               Length
                  381;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IDA.
```

```
RA Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
RA Arakawa T., Hara A., Fukunishi Y., Komno H., Adachi J., Fukuda S.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Kuchi P., Iawis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Kuchi P., Iawis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Schriml L.M., Staubli F., Suzuki R., Tomita M., Magner L., Washio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.
RA Blake J., Botfelli D., Bojunga N., Carninci P., de Bonaldo M.F.
RA Blake J., Bothelli D., Hofmann M., Hume D.A., Kamiya M., Lee W.H.,
RA Hyons P., Marchionni I., Mashima J., Mazzarelli J., Mombaerts P.,
RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
RA Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
RA Hayashizaki Y., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DUS6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ó
MEDLINE=22388257; PubMed=12477932;
Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
Klausmer R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
                                                                                                       SEQUENCE
                                                                                                                                 "Functional annotation of a Nature 409:685-690(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN=C57BL/6J; TISSUE=Liver, and MEDLINE=21085660; PubMed=11217851;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q9DBB1; Q9D7L4;
28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 6 (EC 3.1.3.48) (1
(Mitogen-activated protein kinase phosphatase 3) (MAP)
phosphatase 3) (MKP-3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        147
                                                                                                     FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MKKSNISPNFNFMGOLLDFERTL 347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       lus (Mouse).
; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EKRPTISPNENFLGQLLDYEKKI 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CEKILPWLDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SQNLSQFFPEAISFIDEARGKNCGVLVHCLAGISRSVTVTVAYLMQKLNLSMNDAYDIVK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SFPVEĬĹPFĹYĹĠĊAKĎSTŇLDVLEEFĠĬKYIĹŇVTPNLPNLFENAGEFKYKQIPISDHW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  --PTRILPNLYLGCQRDVLNKELIQQNGIGYVLNASYTCPKP-DFIPESHFLRVPVNDSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ĆĖ--TNLDGSĆSSŚSPPLPVLGLĠGLRISSDSSSDIESDLDRDPNSATDSDGSPLSNSQP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CEGKSTLVPTC-ISQPCLPVANIG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TRRCGTDTVVLYDESSSDWNENTGGESLLGLLLKKLKDEGCRAFYLBGGFSKFQAEFSLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DIDC-SQKYVVYDQSSQD-VASLSSDCFLTVLLGKLEKSENSVHLLAGGFAEFSRCFFGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LELGNERLLLMDCRPQELYESSHIESÄINVAIPGIMLRRLQKGNLPVRALFTRGEDRDRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELIQHSA-KHKV
                                                                                                 N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                       full-length mouse cDNA collection.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                and Tongue;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (EC 3.1.3.16)
kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    45;
                                   Ġ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  77
```

```
8
                                                                                                 밁
                                                                                                                                        ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R. D., Mullahy S.J.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Richards S., Mozny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Willalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Willalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Willalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Willalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Willalon D.K., Muzny D.M., Sodergren E.J., Dickson M.C.,

RA Willalon D.K., Touchman J.W., Green E.D., Dickson M.C.,

RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,

RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;

"Generation and initial analysis of more than 15,000 full-length

"It human and mouse cDNA sequences.",

L. POC. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002).
                                                                                                                                                                                                  Query Match
Best Local S
Matches 109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; AK005062; BAB2
EMBL; AK009131; BAB2
EMBL; BC003869; AAHC
HSSP; Q16828; 1MKP.
                                                                                                                                                                                                                                                                                                   CONFLICT
CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Proc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE; PS50206; RHÓDANESE 3; 1.
PROSITE; PS00383; TYR PHOSPHATASE 1; FALSE NEG.
PROSITE; PS50056; TYR PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR PHOSPHATASE DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                +
                                                                                                                                                                                                                                                                                                                                                                                              ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -1- CATALYTIC ACTIVITY: Protein tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRINTS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (ydrolase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                phosphate.

SUBCELLULAR LOCATION: Cytoplasmic (By similarity)
SUBILARITY: Belongs to the protein-tyrosine phosp
Non-receptor class dual specificity subfamily.
SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tyrosine + phosphate.
CATALYTIC ACTIVITY: A phosphoprotein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 c. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          family (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MGI:1914853; Dusp6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pro; IPR000387; PF00782; DSPc;
87
                                               78
                                                                                                 27
                                                                                                                                                  19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SM00195; DSPc;
SM00450; RHOD;
                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PR01764; MAPKPHPHTASE.
                                               DIDC-SQKVVVYDQSSQD-VASLSSDCFLTVLLGKLEKSFNSVHLLAGGFAEFSRCFPGL
                                                                                                                                             LESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELIQH-SAKHKV
TRRCGTDTVVLYDENSSDWNENTGGESVLGLLLKKLKDEGCRAFYLEGGFSKFQAEFALH
                                                                                                 LELGNERLLLMDCRPQELYESSHIESAINVAIPGIMLRRLQKGNLPVRALFTRCEDRDRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IPR000340; DS phosphatase.
IPR008343; MAPK phosph.
IPR001763; Rhodanese-like.
                                                                                                                                                                                                                                                                                                     381 AA;
                                                                                                                                                                                                                                                                                                                                                                                                    30
206
293
                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                22
34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; BAB23786.1; -.; BAB26093.1; -.
AAH03869.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                    148
381
293
                                                                                                                                                                                                                         29.6%;
                                                                                                                                                                                                                                                                                                        42407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYR_phosphatase
                                                                                                                                                                                                                                                                                                        ¥
                                                                                                                                                                                                    64;
                                                                                                                                                                                               Score 462.5; DB 1;
Pred. No. 3.2e-32;
4; Mismatches 105;
                                                                                                                                                                                                                                                                                                                          W -> G (IN REF.
L -> F (IN REF.
                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                 PROTEIN-TYROSINE PHOSPHATASE PHOSPHOCYSTEINE INTERMEDIATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                        RHODANESE
                                                                                                                                                                                                                                                                                                   7EA1FB154F4AD2DA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                + H(2)0 =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               phosphate +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 specificity for
                                                                                                                                                                                                                                                                                                   BAB26093)
BAB26093)
CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    phosphatase
                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             H(2)0 =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein
                                                                                                                                                                                                                                                   381;
                                                                                                                                                                                                                                                                                                                                                                                                      (BY
                                                                                                                                                                                                  45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein
                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ERK
                                               135
                                                                                                 86
                                                                                                                                                  77
```

밁

IPR000340; DS_phosphatase

```
RESULT 8
DUSG AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643
AC 0643

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                        This SWI
between
                          EMBL;
HSSP;
                                                                                                                          the European Bioinformatics Institute. The use by non-profit institutions as not removed modified and this statement is not removed. entitles requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        d. Blol. Chem. 2/1:3/33-3000 (All Purchases). Has a specificity for
-!- FUNCTION: Inactivates MAP kinases. Has a specificity for
family. Implicated in muscle and neuronal differentiation
-!- CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)O =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                064346;
01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
10-CCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 6 (EC 3.1.3.
(Mitogen-activated protein kinase phosphatase 3)
                                                                                                                                                                                                                                                                                                                                                                                                                                                             -!- CATALYTIC ACTIVITY: Protein tyrosine phosphate + tyrosine + phosphate.
-!- CATALYTIC ACTIVITY: A phosphoprotein + H(2)0 = a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=96216487; PubMed=8631996;
Mourey R.J., Vega Q.C., Campbell J.S., Wenderoth M.P.,
Krebs E.G., Dixon J.E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "MKP-3, a novel cytosolic phosphatase.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN=Sprague-Dawley; TISSUB=Neuron; MEDLINE=96224012; PubMed=8626780; Muda M., Boschert U., Dickinson R., M. Camps M., Schlegel W., Arkinstall S.;
                                                                             EMBL; X94185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "A novel cytoplasmic dual specificity protein tyrosine implicated in muscle and neuronal differentiation."; J. Biol. Chem. 271:3795-3802(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DUSP6 OR MKP3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          phosphatase 3) (MKP-3)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DUS6 RAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Biol.
                                                                                                                                                                                                                                                                                                                  phosphate.
SUBCELLULAR LOCATION: Cytoplasmic.
SUBCELLULAR LOCATION: Cytoplasmic.
SIMILARITY: Belongs to the protein-tyrosine phosphatase
Non-receptor class dual specificity subfamily.
SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                  SWISS-PROT entry is copyright. It is produced through een the Swiss Institute of Bioinformatics and the EW European Bioinformatics Institute. There are no restr by non-profit institutions as long as its content
                          U42627;
Q16828;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MKKSNISPNFNFMGQLLDFERTL 347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EKRPTISPNFNFLGQLLDYEKKI 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CEKILPWLDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        --PTRILPULYLGCQRDVLNKELIQQNGIGYVLNASYTCPKP-DFIPESHFLRVPVNDSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SQNLSQFFPEAISFIDEARGKNCGVLVHCLAGISRSVTVTVAYLMQKLNLSMNDAYDIVK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SFPVEILPFLYLGCAKDSTNLDVLEEFGIKYILNVTPNLPNLFENAGEFKYKQIPISDHW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CE--TNLDGSCSSSPPLPVLGLGGLRISSDSSSDIESDLDRDPNSATDSDGSPLSNSQP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CEGKSTLVPTC-ISOPCLPVANIG-----
                                                                          CAA63895.1; -.
                                                     AAB06202.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        271:4319-4326(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein-tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     mitogen-activated protein ki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Craniata; Vertebrata;
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Martinou
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             381
                                                                                                                                                        oved. Usage by and for (See http://www.isb-sib.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                J.C., Martinou
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                . 48)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (MAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Euteleostomi;
; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (EC 3.1.3.16)
kinase
                                                                                                                                                                                                                                restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hauschka S.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     that
                                                                                                                                                                                  and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  for the
                                                                                                                                                                                                                                                                  TEMBL
                                                                                                                                                                                                                                                                                        ø
                                                                                                                                                                                     for
                                                                                                                                                                                                                                                                                                                                                                                        family
                                                                                                                                                                                                                                                             collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein
                                                                                                                                                             .ch/announce/
                                                                                                                                                                                        commerci
                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           158
```

```
VHP1_CAEEL
                                                                                                                                                                                                                                                                                                  RESULT 9
                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                  뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local :
              This SW.
                                                          Chissoe S.;
Submitted (JUL-1995) to the EMBL/GenBank/DDBJ databases.
-!- CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)0 =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                 Q10038;

Q10NV-1997 (Rel. 35, Created)

01-NOV-1997 (Rel. 35, Last sequence update)

10-OCT-2003 (Rel. 42, Last annotation updat

Protein-tyrosine phosphatase vhp-1 (EC 3.1.
                                                                                                                 SEQUENCE FROM N.A. STRAIN-Bristol N2;
                                                                                                                                                            VHP-1 OR F08B1.1
Caenorhabditis elegans
Eukaryota; Metazoa; Nematoda;
Rhabditidae; Peloderinae; Caen
                                                                                                                                                       NCBI_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR008343; MAPK_phosph
InterPro; IPR001763; Rhodanese-1
InterPro; IPR001763; Rhodanese-1
InterPro; IPR000387; TYR_phospha
Pfam; PF00782; DSPc; 1.
PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPc; 1.
SMART; SM00195; DSPc; 1.
PROSITE; PS0036; RHODAUSEE 3; 1.
PROSITE; PS0036; TYR_PHOSPHATAS;
PROSITE; PS0036; TYR_PHOSPHATAS;
PROSITE; PS0056; TYR_PHOSPHATAS;
PROSITE; PS50056; TYR_PHOSPHATAS;
PROSITE; PS50054; TYR_PHOSPHATAS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hydrolase.
DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro;
InterPro;
                               tyrosine + phosphate.
SIMILARITY: Belongs to t
Non-receptor class dual
           SWISS-PROT entry
een the Swiss Ins
                                                                                                                                                                                                                                                                           CAEEL
                                                                                                                                                                                                                                                                                                                                      325
                                                                                                                                                                                                                                                                                                                                                            276
                                                                                                                                                                                                                                                                                                                                                                                   265
                                                                                                                                                                                                                                                                                                                                                                                                          216
                                                                                                                                                                                                                                                                                                                                                                                                                                                        159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         109;
                                                                                                                                                                                                                                                                                                                               MKKSNISPNFNFMGQLLDFERTL 347
                                                                                                                                                                                                                                                                                                                                                   EKRPTISPNFNFLGQLLDYEKKI 298
                                                                                                                                                                                                                                                                                                                                                                     SQNLSQFFPEAISFIDEARGKNCGVLVHCLAGISRSVTVTVAYLMQKLNLSNNDAYDIVK
                                                                                                                                                                                                                                                                                                                                                                                     CEKILPWLDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVK 275
                                                                                                                                                                                                                                                                                                                                                                                                                   SFPVEILPFLYLGCAKDSTNLDVLEEFGIKYILNVTPNLFNLFENAGEFKYKQIPISDHW
                                                                                                                                                                                                                                                                                                                                                                                                                                 --PTRILPNLYLGCQRDVLNKELIQQNGIGYVLNASYTCPKP-DFIPESHFLRVPVNDSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CEGKSTLVPTC-ISQPCLPVANIG------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ĆĖ---TNLDGŚĆSSŚŚPPLPVLGLĞGLRISSDSSSDIESDLDRDPNSATDSDGSPLSNSQP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TRRČGTDTVVLÝDENŠSDMNENTGGESVLGLLLKKLKDEGCRAFYLEGGFSKFQAEFALH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DIDC-SOKYVYYPOSSOD-VASL8SDCFLTVLLGKLEKSFNSVHLLAGGFAEFSRCFPGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELIQH-SAKHKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LELGNEQLLLMDCRPQELYESSHIESAINVAIPGIMLRRLQKGNLPVRALFTRCEDRDRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PS50206; RHODANESE 3; 1.
PS00383; TYR_PHOSPHATASE 1; FALSE
PS50056; TYR_PHOSPHATASE 2; 1.
PS50054; TYR_PHOSPHATASE_DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30
206
293
                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A,
          Institute of
  is copyright. It is produced through a c
stitute of Bioinformatics and the EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          148
381
293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  42318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           % MAPK_phosph.
% Rhodanese-like.
TYR_phosphatase.
                                     to the protein-tyrosine phosphatase family. dual specificity subfamily.
                                                                                                                                                       oda; Chromadorea; Rhabditida; Rhabditoidea; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  М¥.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 461.5; DB 1
Pred. No. 3.9e-32;
                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RHODANESE.
PROTEIN-TYROSINE PHOSPHATASE.
PHOSPHOCYSTEINE INTERMEDIATE
SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C511E00CB68F2888 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                          update)
C 3.1.3.48).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FALSE_NEG
                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YB)
                                                                       protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                       324
                                                                                                                                                                                                                                                                                                                                                                                                                   264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  204
                                                                                                                                                                                                                                                                                                                                                                                                                                           215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             86
```

```
RESULT 10
DUS4
AC 099W7
DT 16-OC
DT 16-OC
DT 10-OC
DT 10-OC
DT 10-OC
DE DUS1
DE (Mitc
DE DUS94
OC Archc
OC Archc
OC ARChC
RN SEQUE
RN [1]
RX MEDL]
RX MEDL]
RX MEDL]
RX MEDL
RY "Ider
RT "Ider
RT "Ider
RT SEQUE
RC -!-|
CC -!-|
CC -!-|
CC -!-|
CC -!-|
CC -!-|
CC -!-|
P SEQUENCE FROM N.A.

C STRAIN=White leghorn;

X MEDLINE=20379359; PubMed=10918612;

X Pu S.-L., Waha A., Vogt P.K.;

A Fu S.-L., Waha A., Vogt P.K.;

T "Identification and characterization of genes upregulate transformed by v-Jun.";

Oncogene 19:3537-3545(2000).

C -!- FUNCTION: Regulates mitogenic signal transduction by dephosphorylating both Thr and Tyr residues on MAP k

c and ERK2 (By similarity).

C -!- CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)
                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                   DUS4 CHICK
Q9PW71;
16-OCT-2001
16-OCT-2001
10-OCT-2003
                                                                                                                                                                                                 Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; (
Archosauria; Aves; Neognathae;
                                                                                                                                                                                                                                                        16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 4 (EC 3.1.3.48)
(Mitogen-activated protein kinase phosphatase-2) (MAI)
phosphatase-2) (MKP-2).
                                                                                                                                                                           NCBI_TaxID=9031;
                                                                                                                                                                                                                                              DUSP4 OR MKP2.
                                                                                                                                                                                                                                                                                                                                                                      CHICK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hydrolase.
DOMAIN
DOMAIN
DOMAIN
DOMAIN
DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PROSITE; PS00383;
PROSITE; PS50056;
PROSITE; PS50054;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR000340; DS phosphatase. InterPro; IPR000387; TYR_phosphatase. Pfam; PF00782; DSPc; 1. SMART; SM00195; DSPc; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WormPep; F08B1.1; CE01899.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; U23178; AAC46719.1; -. PIR; T15969; T15969.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HSSP; Q16828; 1MKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                          218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                179 LIQQNGIGYYLNASYTCPKPDFIPE-SHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASN 237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           123 GGFAEFSRCFPGLCEGKS--TLVPTCISQPCL--PVANIGPTRILPNLYLGCQRDVLNKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99 GGFKQFAQQYPQLCESSEGMTRLPQSLSQPCLSQPTGD-GITLITPNIYLGSQIDSLDET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      90;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                          GCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISENENELGQLLDYE
|:||||||||||||:||:||:||
                                                                                                                                                                                                                                                                                                                                                                                                             MLDALDÍSVVINLSMŤCÞŔSVCÍKÉDKNÞMRIÞVNDSYQEKLSÞYFÞMAYBFLÉKCRRAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PS50054;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  200
92
351
465
483
224
                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ΑĄ;
                                                                                                                                                                                           Chordata; Craniata; Vertebrata; Buteleostomi;
Neognathae; Galliformes; Phasianidae; Phasiani
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYR_PHOSPHATASE_1; 1.
TYR_PHOSPHATASE_2; 1.
TYR_PHOSPHATASE_DUAL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 269
95
354
472
488
224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66354 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             28.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROTEIN-TYROSINE PHOSPHATASE.
POLY-SER.
POLY-SER.
POLY-SER.
POLY-SER.
POLY-SER.
PHOSPHOCYSTEINE INTERMEDIATE (B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. 6.96
4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 450; DB 1;
Pred. No. 6.9e-31;
                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   369E326F615D0529
                                                                                                                                                                                                                                                                                                                                                   375
                                                                                     genes upregulated
                                 transduction besidues on MAP
                                                                                                                                                                                                                                                                                                                                                  ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                  (MAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
       H(2)0 =
                                                                                                                                                                                                                                                               (EC 3.1.3.16)
kinase
                                 kinases
                                                                                                                                                                                           Phasianinae;
                                                                                     in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (BY
                                                                                     cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6
                               ERK1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                               275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      157
```

```
DUS1_MOUSE
ID __DUS1_MOUSE
ID __DUS1_MOUSE
AC __P28563;
DT __O1-DEC-1992
DT __O1-DEC-1992
DT __O1-DEC-1901
DT __O1-DEC-1901
                                                                                                                                                                                                     S
                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                              片
                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                ঠ
                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 104
01-DEC-1992
01-DEC-1992
15-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00782; DSPc; 1.
Pfam; PF00581; Rhodannee; 1.
PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPc; 1.
SMART; SM00450; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL;
HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS00383; TYR_PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR_PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR_PHOSPHATASE_DUAL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             send
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Non-receptor class dual specificity subf SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  phosphate.
SUBCELLULAR LOCATION: Nuclear (By similarity).
SIMILARITY: Belongs to the protein-tyrosine ph
Non-receptor class dual specificity subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CATALYTIC ACTIVITY: A phosphoprotein + H(2)0 = a protein
                                                                                                                            303
                                                                                                                                                                                                                                         184
                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AF167296; AAI
Q16828; 1MKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      104;
                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                          4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                            SEMGQLLQFESQV 315
                                                                                                                                               NFLGQLLDYEKKI
                                                                                                                                                                                 AIEYIDSVKECCGRVLVHCQAGISRSATICLAYLMMKKRVKLEKAFEFVKQRRSIISPNF
                                                                                                                                                                                                                                                                   LYLGCORDVLNKELIOONGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDK
                                                                                                                                                                                                                                                                                                                          LLAGGFAEFSRCFPGLCEGKSTLVFTCISQF-----
                                                                                                                                                                                                                                                                                                                                                        SLEQILPAEGEVRARLRAGLYTAVVLYDERSPRAEALRDDSTVALVLRALRRDMARADIR
                                                                                                                                                                                                                                                                                                                                                                                  LITELI -- QHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSF--NSVH
                                                                                                                                                                                                                                                                                                                                                                                                                                         EMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKV
                                                                                                                                                                                                             SVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNF
                                                                                                                                                                                                                                         LYLGSAYHAARRDMLDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFME
                                                                                                                                                                                                                                                                                                 LLAGGYERFASEYPEFCAKTKTL--SSISPPSSAESLDLGFSSCGTPLHDQGGPVEILPF
                                                                                                                                                                                                                                                                                                                                                                                                                EMEGSAL -- RRLVGREEASGGRCLLLDCRPFLAHSAGHIRGALNVRCNTIVRRR-AKGAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IPRO00340; DS phosphatase.
IPRO08343; MAPK_phosph.
IPRO01763; Rhodanese-like.
IPRO00387; TYR_phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nuclear
(Rel.
(Rel.
(Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ₽
;
                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAD46656.1; -.
24,
24,
43,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein.
143
375
261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               41052 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27.6%;
33.2%;
Created)
Last seq
                                                                                                                                                      298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      65;
sequence update)
annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RHODANESE.
PROTEIN-TYROSINE PHOSPHATASE.
PHOSPHOCYSTEINE INTERMEDIATE
SIMILARITY).
; 179290D0C2BEEEF1 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 431; DB 1;
Pred. No. 1.6e-29;
                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                        367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 _
                                                        ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       phosphatase family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                             --C-LPVANI-GPTRILPN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   375;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YB)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                     225
                                                                                                                                                                                                                                                                                                                             165
                                                                                                                                                                                                                                                                                                                                                         125
                                                                                                                                                                                                                                                                                                                                                                                    119
                                                                                                                                                                                                              285
                                                                                                                                                                                                                                         242
                                                                                                                                                                                                                                                                                                 183
                                                                                                                                                                                                                                                                                                                                                                                                                65
                                                                                                                                                                                                                                                                                                                                                                                                                                            63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
```

modified

non-profit institutions as long as its content is and this statement is not removed. Usage by and for requires a license agreement (See http://www.isb-sib-

9

à

```
RA Klausner R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Altschenko L., Marusina K., Farmer A.A., Rubin G.M., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Diatchenko L., Warusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Diatchenko L., Warusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Diatchenko L., Warusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Diatchenko L., Warusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Diatchenko L., Warusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Raha S.S., Kogwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Pahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Rakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA Rodriguez A.C., Grimwood J., Schmurz J., Myers R.M.,
"Generation and initial analysis of more than 15,000 full-length
human and mouse cDNA sequences.",
Proc. Natl. Acad. Sci. U.S.A. 99:16999-16903 (2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Structure, mapping, and expression of erp, a growgene encoding a nontransmembrane protein tyrosine effect of ERP on cell growth.":
                                                                                                                                                                                                                                                                                                               -i- FUNCTION: Dual specificity phosphatase that dephosphorylates MAP kinase ERK2 on both Thr-183 and Tyr-185.
-i- CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)O = protein tyrosine + phosphate.
-i- CATALYTIC ACTIVITY: A phosphoprotein + H(2)O = a protein +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sun H., Charles C.H., Lau L.F., Tonks N.K.;
"MKP-1 (3CH134), an immediate early gene product,
specificity phosphatase that dephosphorylates MAP
Cell 75:487-493(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Charles C.H., Abler A.S., Lau L.F.; "cDNA sequence of a growth factor-inducible immediate characterization of its encoded protein.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Dual specificity protein phosphatase 1 (BC 3.1.3.48) (MAP kinase phosphatase-1) (MKP-1) (Protein-tyrosine 3CH134) (Protein-tyrosine phosphatase ERP). DUSP1 OR PTPN10 OR MKP1 OR 3CH134 OR PTPN16.
the European Bioinformatics Institute.
                                                                      This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=94037096;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN=Czech II; TISSUE=Mammary gland; MEDLINE=22388257; PubMed=12477932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=92158357; PubMed=1741163;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mus musculus (Mouse)
                                        between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CHARACTERIZATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=93360956; PubMed=8355678;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE=Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Oncogene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN=BALB/c;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=10090;
                                                                                                                                     SIMILARITY: Belongs to the protein-tyrosine phosphatase family. Non-receptor class dual specificity subfamily. SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                               phosphate.
INDUCTION: By growth factors.
SIMILARITY: Belongs to the pi
                                    SWISS-PROT entry is copyright. It is produced through een the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7:187-190(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ERP on cell growth.";
Biol. 13:5195-5205(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PubMed=8221888;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
   There are no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Carrasco D., Bravo R.;
a growth factor-inducible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         is a du
kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           phosphatase,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (EC 3.1.3.16)
       restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      early
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         dual
se in
                                        gh a collaboration -
EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         vivo.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mue
           9
```

send

```
RESULT
DUS4_H
                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Sim
Matches 104;
                                                     DUS4 HUMAN STANDARD; PRT; 394 AA.
Q13115; Q13524;
01-NOV-1997 (Rel. 35, Created)
10-NOV-1997 (Rel. 35, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 4 (EC 3.1.3.48) (EC 3.1.3.16)
(Mitogen-activated protein kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP kinase phosphatase-2) (MAP
Mammalia; Eutheria; Primates; NCBI TaxID=9606; [1]
                                             Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR000340; DS phosphatase.
InterPro; IPR000340; MAPK phosph.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR000387; TYR phosphatase.
Pfam; PF00782; DSPc; 1.
Pfam; PF00581; Rhodanese; 1.
PRINTS; PR01764; MAPKHPHTASE.
SMART; SM00195; DSPC; 1.
SMART; SM00195; DSPC; 1.
                                                                                                                                                                                                                                                                       HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
ACT_SITE
MUTAGEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE; PS50206; RHODANESE 3, 1.
PROSITE; PS00383; TYR PHOSPHATASE 1, 1.
PROSITE; PS50056; TYR PHOSPHATASE 2, 1.
PROSITE; PS50054; TYR_PHOSPHATASE_DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL;
                                                                                                                                                                                                                                                                                                                                               310
                                                                                                                                                                                                                                                                                                                                                                                   296
                                                                                                                                                                                                                                                                                                                                                                                                                        250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     191
                                                                                                                                                                                                                                                                                                                                                                                                                                                             236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MGI:105120; Dusp1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A54681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 X61940; CA
S64851; AA
BC006967;
                                                                                                                                                                                                                                                                                                                                             VQS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q16828;
                                                                                                                                                                                                                                                                                                                                                                                   KKI 298
                                                                                                                                                                                                                                                                                                                                                                                                   SNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYREVKEKRPTISBNENFLGQLLDYE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RKDMLDALGITALINVSANCPN-HFEGHYQYKSIPVEDNHKADISSWENEAIDFIDSIKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NKELIQQNGIGYVLNASYTÇEKEDETPESHELRVEVNDSECEKILEWLDKSVDETEKAKA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PELCSKOST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GRLLAGAYHAVVILDERSASLDGAKRDGTLALAAGALCREARSTQVFFLQGGYEAFSASC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HKVDIDCSQKVVVYDQS$QDVASLSSDCFLTVLLGKL--EKSFNSVHLLAGGFAEFSRCF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELIQHSAK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PGLCEGKSTLVPTCISQP-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                lrálírbgaaqciíldcksffafnaghiagsvnvrfstivrkrakgamgíehivpnaelr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cell
20
175
258
258
258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; S24411.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ă,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAB27882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cycle.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1MKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAA43944.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAH06967.1;
                                             Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         - PTGLŚLPLSTSVPDSAESGČSSCSTPLYDQGGPVEILSFLYLGSAYHAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       367
258
258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  39369 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         48;
              Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 425; DB 1;
Pred. No. 5e-29;
48; Mismatches 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROTEIN-TYROSINE PHOSPHATASE
PHOSPHOCYSTEINE INTERMEDIATE
C->S: LOSS OF ACTIVITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RHODANESE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              50B5F90FEBBD19AB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLPVANI ----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   129;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 367;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -GPTRILPNLYLGCQRDVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22;
                                                                                                                                                                                                                                                                                                                                                                                                     309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                72
```

```
REMBL; U21108; AAA85119.1; ...
REMBL; U48807; AAC50452.1; ...
REMBL; BC002671; AAH02671.1; ...
REMBL; BC002671; AAH02671.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14565.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655.1; ...
REMBL; BC014565; AAH14655; AAH14655.1; ...
REMBL; BC014565; AAH14655; 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=22388257; PubMed=12477932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chu Y., Solski P.A., Khosravi-Far R., Der "The mitogen-activated protein kinase phos MKP-2 have unique substrate specificities toward the ERK2 sevenmaker mutation.", Biol. Chem. 271:6497-6501(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.

MEDLINE=96198119; PubMed=8626452;

Chu Y., Solski P.A., Khosravi-Far
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Isolation and characterization of
                                                                                                                                                                                                                                                                                                                                                                                                                                                   phosphate.
SUBCELLULAR LOCATION: Nuclear.
SIMILARITY: Belongs to the protein-tyrosine phosphatase family.
Non-receptor class dual specificity subfamily.
SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tyrosine + phosphate.
CATALYTIC ACTIVITY: A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Biol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  which selectively in kinase.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and Uterus,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          270:7197-7203 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 phosphoprotein + H(2)O =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               dephosphorylates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a novel dual specific phosphatase, ylates the mitogen-activated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Der C.J., Kelly K.;
phosphatases PAC1, MKP-1, and
ties and reduced activity in v:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   þ
                                                                                              :.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Vivo
```

InterPro; IPR000387;

TYR_phosphatase.

```
DUS4-T 13
DUS4-T 15-JU
DUS4-T 15-JU
DT 15-JU
DT 10-OC
DE DNS9
GN PARTE (MICO
DE NOSP4
OC EUKAX
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
OC MAMMMA
O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOUTH THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Sim
Matches 100;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DUS4 RAT STANDARD; PRT; 395 AA.

062767;
15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
10-OCT-2003 (Rel. 42, Last annotation update)
Dual specificity protein phosphatase 4 (EC 3.1.3.48) (EC 3.1.48)
(Mitogen-activated protein kinase phosphatase-2) (MAP kinase)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                     TISSUE=Pheochromocytoma;
MEDLINE=95301550; PubMed=7782322;
Misra-Press A., Rim C.S., Yao H., Roberson M.S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
NCBI TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS00383; TYR PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR PHOSPHATASE DUAL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRINTS; PRO1764; MAPKPHPHTASE.
SMART; SM00195; DSPC; 1.
SMART; SM00450; RHOD; 1.
                                                                                                                                                                                                                                                                                                               "A novel mitogen-activated protein kinase expression, and regulation.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                phosphatase-2) (MKP-2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hydrolase; Nuclear DOMAIN 41 DOMAIN 197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DUSP4 OR MKP2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACT_SITE
                                Biol. Chem. 270:14587-14596 (1995).

FUNCTION: Regulates mitogenic signal transduction b dephosphorylating both Thr and Tyr residues on MAP and ERK2 (By similarity).

CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(tyrosine + phosphate.

CATALYTIC ACTIVITY: A phosphoprotein + H(2)O = a pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PF00782; DSPc; 1.
PF00581; Rhodanese; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      77 VDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRCFPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19 LESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELI--QHSAKHK 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VLVHCQAGISRSATICLAYLMMKKRVRLEEAFEFVKQRRSIISPNFSFMGQLLQFESQV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFMEAIEYIDAVKDCRGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FCSKTKALAAIPPPVPPSATEPLDLGCSSCGTPLHDQGGPVEILPFLYLGSAYHAARRDM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LCEGKSTL-----VPTCISQP-----C-LPVANI-GPTRILPNLYLGCQRDVLNKEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSEYPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LPSG-GKCLLLDCRPFLAHSAGYILGSVNVRCNTIVRRR-AKGSVSLEQILPABEEVRAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        394 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       394
280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 27.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        42953 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 425; DB 1;
Pred. No. 5.5e-29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R -> G (IN REF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PHOSPHOCYSTEINE INTERMEDIATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROTEIN-TYROSINE PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RHODANESE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0603971759B6952E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ٢
                                                                                                                                                                                                                                                                                                                                                    n M.S., Stork
phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                113; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CRC64;
                                                                                                                   H(2)0 = protein
                                                                                                                                                                                                                                                                                                                                                    Structure,
                                                                                                                                                                                                     kinases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3.1.3.16)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (BY
                                                                                                                                                                                                                                                                                                                                                                                                      ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        156
```

```
Ş
                                                          문
                                                                                S
                                                                                                                  밁
                                                                                                                                              á
                                                                                                                                                                              밁
                                                                                                                                                                                                       S
                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
Matches 98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -i- SUBCELLULAR LOCATION: Nuclear (By similarity).
-i- TISSUE SPECIFICITY: Expressed at moderate levels in nearly all tissues and cells including brain, spleen, and testes with the higher expression in the heart and lung and lower expression in skeletal muscle and kidney. Undetectable in liver. Expressed in many areas of the brain with very strong expression in the hippocampus, piriform cortex, and the suprachiasmatic nucleus.
-i- INDUCTION: By mitogens and by stress.
-i- SIMILARITY: Belongs to the protein-tyrosine phosphatase family. Non-receptor class dual specificity subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS00383; TYR PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR_PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR_PHOSPHATASE_DUAL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR000340; DS phosphatase.
InterPro; IPR008343; MAPK phosph.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001387; TYR phosphatase.
Pfam; PF00782; DSPC; 1.
Pfam; PF00581; Rhodanese; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (See lor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPc; 1.
SMART; SM00450; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hydrolase; Nuclear
DOMAIN 42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; U23438; AAC52493.1; -. HSSP; Q16828; 1MKP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
332
                            295
                                                          272
                                                                                                                    213
                                                                                                                                                 175
                                                                                                                                                                               155
                                                                                                                                                                                                            132
                                                                                                                                                                                                                                                                      74
                                                                                                                                                                                                                                                                                                                                16 VALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELI--QHSA
                                                                                                                                                                                                                                                                                                                                                              98;
                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                         ASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDY
                                                                                                                                                                                                                                                                                                  LGLLSGG--KCLLLDCRPFLAHSAGYIRGSVNVRCNTIVRRR-AKGSVSLEQILPABEEV
                                                                                                                                                                                                            FPGLCEGKSTLVPTCISQPCLPVANI------
                                                                                                                                                                                                                                        RARLRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSE
                            EKKI 298
                                                                                                                                              LNKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAK
                                                                                                                                                                              YPEFCSKTKAL--AAIPPPVPPSTNESLDLGCSSCGTPLHDQGGPVEILPFLYLGSAYHA
                                                                                                                                                                                                                                                                  KHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRC
                                                      DCRGRVLVHCQAGISRSATICLAYLMMKKRVRLEBAFEFVKQRRSIISPNFSFMGQLLQF
                                                                                                                  ARRDMLDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFMEAIEYIDAVK
                                                                                                                                                                                                                                                                                                                                                                                                                         395
                                                                                                                                                                                                                                                                                                                                                              Conservative
335
                                                                                                                                                                                                                                                                                                                                                                                                                         Ą,
                                                                                                                                                                                                                                                                                                                                                                                                                                                     r protein.
160
395
281
                                                                                                                                                                                                                                                                                                                                                                                                                         43187 MW;
                                                                                                                                                                                                                                                                                                                                                                          27.1%;
32.2%;
                                                                                                                                                                                                                                                                                                                                                              61;
                                                                                                                                                                                                                                                                                                                                                                                                                                      PHOSPHOCYSTEINE INTERMEDIATE SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                         Score 423.5;
Pred. No. 7.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROTEIN-TYROSINE PHOSPHATASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RHODANESE
                                                                                                                                                                                                                                                                                                                                                                                                                         A90EFFD378A050FD CRC64;
                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                             7.4e-29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    There are no restrictions ng as its content is in
                                                                                                                                                                                                                                                                                                                                                                                           BB
                                                                                                                                                                                                                                                                                                                                                              118;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Usage
                                                                                                                                                                                                                                                                                                                                                                                           1.
                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ş
                                                                                                                                                                                                          GPTRILPNLYLGCQRDV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                           395;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       YB)
                                                                                                                                                                                                                                                                                                                                                              27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          for
                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          commercia:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            i i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                      294
                                                                                                                     271
                                                                                                                                                 234
                                                                                                                                                                                                            174
                                                                                                                                                                                                                                         154
                                                                                                                                                                                                                                                                                                  94
```

RESULT 14 DUS2_HUMAN

```
RX MEDILINE=22188257; pubMed=12477932;
RX MEDILINE=22188257; pubMed=12477932;
RA Strausberg R.L., Feingold B.A., Grouse L.H., Derge J.G.,
RA Klausmer R.D., Collins F.S., Wagmer L., Schaefer C.F., Bhat N.K.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Altschul S.F., Jordan H., Moore T., Max S.I., Wang J., Hsich F.R.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsich F.R.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raka S.S., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Willalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA Blakesley R.M., Touchman J.W., Green E.D., Dickson M.C.,
RA Blakesley R.M., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Rodriguez A.C., Grimwood J., Schwutz J., Myers R.M.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Rodriguez A.C., Grimwood J., Schwutz J., Myers R.M.,
RA Rodriguez A.C., Grimwood J., Schwutz J., Myers R.M.,
RA Rodriguez A.C., Grimwood J., Schwutz J., Myers R.M.,
RA Rodriguez A.C., Grimwood J., Schwutz J., Wyers R.M.,
RA Rodriguez A.C., Grimwood J., Schwutz J., Wyers R.M.,
RA Rodriguez A.C., Grimwood J., Schwutz J., Wyers R.M.,
RA Rodriguez A.C., Grimwoo
                       This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Ew the European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content modified and this statement is not removed. Usage by antentitles requires a license agreement (See http://www.isb-gor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=96070437; PubMed=7590752; Yi H., Morton C.C., Weremowicz S., McBride O.W., Kelly K.; "Genomic organization and chromosomal localization of the DUSP2 encoding a MAP kinase phosphatase, to human 2p11.2-q11."; Genomics 28:92-96(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE=B-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=93206122; PubMed=7681221; Rohan P., Davis P., Moskaluk C.A., Siebenlist U., Kelly K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-FEB-1994 (Rel. 28, Created)
01-FEB-1994 (Rel. 28, Last sequence update)
15-MAR-2004 (Rel. 43, Last annotation update)
Dual specificity protein phosphatase 2 (EC 3.1.3.48)
(Dual specificity protein phosphatase PAC-1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "PAC-1: a mitogen-induced nuclear protein Science 259:1763-1766(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                          INDUCTION: By mitogens.
SIMILARITY: Belongs to the protein-tyrosine
Non-receptor class dual specificity subfamil
SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                           CATALYTIC ACTIVITY: Protein tyrosine phosphate + H(2)0 = protein tyrosine + phosphate.

CATALYTIC ACTIVITY: A phosphoprotein + H(2)0 = a protein +
                                                                                                                                                                                                                                                                                                                              phosphate.
SUBCELLULAR LOCATION: Nuclear.
L11329; AAA50779.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HUMAN
                                                                                                                                                                                                                                                                                                             SPECIFICITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STANDARD;
                                                                                                                                                                                                                                                                                                      In hematopoietic tissues.
                                               is not removed. Usage by and for commercial agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kearns
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                314
                                                                                                                                                                                                                                 tyrosine phosphatase subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Krutzsch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           phosphatase.";
                                                                                                                  restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (EC 3.1.3.16)
                                                                                                                                            EMBL
                                                                                                 18
                                                                                                                                       a collaboration
                                                                                                                                                                                                                                                       family
                                                                                               ü
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gene,
                                                                                               ng g
```

```
RESULT
DUS1_HI
                                                                                                                                                                                                                                                                                                                                                                              뭐
                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DR RODR REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE OF REPERENCE 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Simi
Matches 109;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE; PS50266; RHÓDANESE 3; 1.

PROSITE; PS50266; RYR PHOSPHATASE 1; 1.

PROSITE; PS500383; TYR PHOSPHATASE 2; 1.

PROSITE; PS50056; TYR PHOSPHATASE DUAL; 1.

PROSITE; PS50056; TYR PHOSPHATASE DUAL; 1.

Hydrolase; Nuclear protein; 3D-structure.

DOMAIN 23 144

DOMAIN 23 302

PROTEIN-TYROSINI
PHOSPHOCYSTEINE
                         DUS1_HUMAN STANDARD; PRT; 367 AA.
P28562;
01-DEC-1992 (Rel. 24, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
15-MAR-2004 (Rel. 43, Last amoutation update)
Dual specificity protein phosphatase 1 (EC 3.1.3.48)
(MAP kinase phosphatase-1) (MKP-1) (Protein-tyrosine CL100) (Dual specificity protein phosphatase hVH1).
Homo sapiens (Human)
                                                                                                                                                                                                                                                                             HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRINTS; PRO1764; MAPKE
SMART; SM00195; DSPC;
SMART; SM00450; RHOD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR001763; Rhodanese
InterPro; IPR000387; TYR_phosy
Pfam; PF00782; DSPc; 1.
Pfam; PF00581; Rhodanese; 1.
PRINTS; PR01764; MAPKPHPHTASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; U23853; AAA86112.1; -.
EMBL; BC007771; AAH07771.1;
PIR; A57126; A57126.
PDB; 11KZ; 30-MAY-02.
Genew; HGNC:3068; DUSP2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR000340;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GO:0004725; F:protein tyrosine phosphatase activity; GO:0008330; F:protein tyrosine/threonine phosphatase GO:0000188; P:inactivation of MAPK; TAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GO:0005634; C:nucleus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GO:0006470; P:protein amino acid dephosphorylation;
                                                                                                                                                                                                                                                                                                                                                                           309
                                                                                                                                                                                                                                                                                                                                                                                                                       296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24
                                                                                                                                                                                                                                                                                                                                                                         ΤQV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                  Ŕ
                                                                                                                                                                                                                                                                                                                                                                                                                                                        SGGRVLVHCQAGISRSATICLAYLMQSBRVRLDEAFDFVKQRRGVISPNFSFMGQLLQFE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QNGIGYVLNASYTCPKPDFIPESHF-----LRVPVNDSFCEKILPWLDKSVDFIEKAKA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QGCCPDLCSEAPAPALPPTGDKTSRSDSRAPVYDQGGPVEILPYLFLGSCSHSSDLQGLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SRCPPGIC-EGKSTLVP-----TCISQPCLPVANI-GPTRILPNLYLGCQRDVLNKELIQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AKHKVDIDCSQKVVVYDQSSQDVASLSSD----CFLTVLLGKLEKSFNSVHLLAGGFAEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACGITAVLNVSASCP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                L-----ARAVVLDEGSASVÄELRPDSPAHVLLAALLHETRAGPTAVYFLRGGFDGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ERTLLLDCRPFLAFCRRHVRAARPVPWNALLRRRARGPPAAVLACLLPDRALRTRLVRGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EKVLLIDSRPFVEYNTSHILEAININCSKLMKRR------LQQDKVLITELIQHS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IPR000340; DS phosphatase.
IPR008343; MAPK phosph.
IPR001763; Rhodanese-like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    314
                                                                                                                                                                                                                                                                                                                                                                                                                       298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AA;
  Chordata; Craniata; Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 34399 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYR_phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 418; DB 1;
Pred. No. 1.6e-28;
5; Mismatches 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PHOSPHOCYSTEINE SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROTEIN-TYROSINE PHOSPHATASE PHOSPHOCYSTEINE INTERMEDIATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -NHFEGLFRYKSIPVEDNQMVEISAWFQEAIGFIDWVKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FDD3543C6DE10CA5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
Euteleostomi;
                                                                                            phosphatase
                                                                                                                   Œ
                                                                                                                   3.1.3.16)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      acti.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         295
                                                                                                                                                                                                                                                                                                                                                                                                                                                        308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           æ
```

```
A Altschul S.F., Colling F.S., Wagner L., Shenmen C.M., Schuler G.D.,
A Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
A Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
A Latchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
A Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
A Blackelin M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
A Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
A Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
A Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
A Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
A Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
A Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
A Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
A Wiltalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
A Wilting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
A Winting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
A Wilting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
A Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
A Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
A Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
A Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
Broc. Natl. Acad. Sci. U.S.A. 99:16991(2002).
C. LINGTION: Dual specificity phosphatase that dephosphorylates MAP
Froc. Catalytic Activity: Protein tyrosine phosphate + H(2)0 = protein
                                                                                                                                                                                                                        GO; GO:0004726; F:non-membrane spanning pr
GO; GO:0006979; P:response to oxidative st
InterPro; IPR00340; DS phosphatase.
InterPro; IPR008343; MAPK phosph.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001987; TYR phosphatase.
Pfam; PF00782; DSPC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entrepean Bioinformatics Institute. There are no restue by non-profit institutions as long as its content modified and this statement is not removed. Usage by and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; X68277; CAA48338.1; -.
EMBL; BC022463; AAH22463.1;
PIR; S29090; S29090.
PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS00383; TYR_PHOSPHATASE_1;
PROSITE; PS50056; TYR_PHOSPHATASE_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Strausberg R.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=22388257; PubMed=12477932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein-tyrosine phosphatase.";
Nature 359:644-647(1992).
                                                                                                                          SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genew; HGNC:3064; DUSP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HSSP; Q16828; 1MKP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=93024952; PubMed=1406996;
                                                                                                                                                                                             PRINTS; PR01764; MAPKPHPHTASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'Oxidative stress and heat shock induce a human gene encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            phosphate.
INDUCTION: By oxidative stress and heat shock.
SIMILARITY: Belongs to the protein-tyrosine phononing the protein subfamily.
Non-receptor class dual specificity subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Non-receptor class dual specificity subf SIMILARITY: Contains 1 rhodanese domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tyrosine + phosphate.
CATALYTIC ACTIVITY: A phosphoprotein + H(2)O = a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S.M., Emelie E.A.;
                                                                                                                          SM00195; DSPc;
SM00450; RHOD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Feingold
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E.A., Grouse L.H., Derge J.G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ŀ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein tyrosine phos. stress; TAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               phosphatase family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ņ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ဋ္ဌ
```

```
밁
                        S
                                                  밁
                                                                       S
                                                                                                       B
                                                                                                                              Ś
                                                                                                                                                           밁
                                                                                                                                                                                   S
                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                          STETER
                                                                                                                                                                                                                                                                                                                     Matches 102;
                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS50054; TYR PHOSPHATASE_DUAL;
Hydrolase; Cell cycle.
DOMAIN 20 137 RHODANESE.
DOMAIN 175 367 PROTEIN-TYR
                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                ACT_SITE
312
                          298
                                                                                                        193
                                                                                                                                 178
                                                                                                                                                           133
                                                    252
                                                                             238
                                                                                                                                                                                    133
                                                                                                                                                                                                              73
                                                                                                                                                                                                                                                                  13
V 312
                          I 298
                                                                                                                                                                                                                                       HKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKL--EKSFNSVHLLAGGFAEFSRCF
                                                                                                                                                                                                                                                                                           LVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELIQHSAK
                                                                                                                                                                                    PGLCEGK-----STLVPTCISOPCLPVANI-----GPTRILPNLYLGCQRDVLNK
                                                                                                                                                                                                             GRILLAGAYHAVVILLDERSAALDGAKRDGTLALAAGALCREARAAQVFFLKGGYEAFSASC
                                                                                                                                                                                                                                                                 LRALLGERAAQCLLLDCRSFFAFNAGHIAGSVNVRFSTIVRRRAKGAMGLEHIVPNAELR
                                                    GRVFVHCQAGISRSATICLAYLMRTNRVKLDEAFEFVKQRRSIISPNFSFMGQLLQFESQ
                                                                       GCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKK
                                                                                                        DMLDALGITALINVSANCPN-HFEGHYQYKSIPVEDNHKADISSWFNEAIDFIDSIKNAG
                                                                                                                                ELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASN
                                                                                                                                                           PELCSKQSTPMGLSLPLSTSVPDSAESGCSSCSTPLYDQGGPVEILPFLYLGSAYHASRK
                                                                                                                                                                                                                                                                                                                                                                          367 AA;
                                                                                                                                                                                                                                                                                                                                                                                                   20
175
258
                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                   137
367
258
                                                                                                                                                                                                                                                                                                                                                                          39297 MW;
                                                                                                                                                                                                                                                                                                                                  26.5%;
33.9%;
                                                                                                                                                                                                                                                                                                                     47;
                                                                                                                                                                                                                                                                                                                                   Score 415;
Pred. No. 3.
                                                                                                                                                                                                                                                                                                                                                                        SIMILARITY).
; 11BD1D39A9FCD51F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                   PROTEIN-TYROSINE PHOSPHATASE PHOSPHOCYSTEINE INTERMEDIATE
                                                                                                                                                                                                                                                                                                                       Mismatches, 134;
                                                                                                                                                                                                                                                                                                                                                DB 1;
                                                                                                                                                                                                                                                                                                                                     .6e-28
                                                                                                                                                                                                                                                                                                                                                Length 367;
                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                     YB)
                                                                                                                                                                                                                                                                                                                       18;
                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                        251
                                                                                                                                                             192
                                                                                                                                                                                       177
                                                                                                                                                                                                                 132
                                                                                                                                                                                                                                                                    72
```

дob Search completed: June 21, 2004, 13:21:07 time : 6.55843 secs

This Page Blank (uspto)

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Perfect score:
     1111119876543
111111987
                                                                                                                                                                                                                                  Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                     1552
1545
1514
1514
1375.5
1312
1172.5
1034
989
985
891
601.5
472.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BG 80
                                                                                                                                                                               Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      веq
веq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein search, using sw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      length: 0
length: 2000000000
                                                                                                                                                                              Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-029-345A-109_COPY_1_302
1564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1017041 segs,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gapop 10.0 ,
                                                                                                                                                                                                                                                                            9:
10:
11:
12:
12:
13:
14:
15:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            June
                                                                                                       96.8
87.9
83.9
                                                                                                                                                                                                                                                                                                                                                                                                                                              SPTREMBL 25:*
              75.0
66.1
63.2
63.0
57.0
39.0
36.0
30.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MAHEMIGTQIVTERLVALLE......PNFNFLGQLLDYEKKIKNQT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                  sp_archea:*
sp_bacteria:*
                                                                                                                                                                                                                                                                                                                                                            sp_organelle:*
sp_phage:*
                                                                                                                                                                                                                                                                                                                                                                                                      sp_invertebrate: *
                                                                                                                                                                                                                                                                                                                                                                               sp_mhc:*
                                                                                                                                                                                                                                                                                                                                                                                            sp_mammal:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21, 2004, 13:15:22 ; Search time 23.7353 Seconds (without alignments) 4014.554 Million cell updates/sec
                                                                                                                                                                                                                                                                                  sp_unclassified:*
sp_rvirus:*
sp_bacteriap:*
                                                                                                                                                                                                                                                                                                                             sp_rodent:*
sp_virus:*
                                                                                                                                                                                                                                                                                                                    sp_vertebrate:*
                                                                                                                                                                                                                                                                                                                                                  sp_plant:*
                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                           fungi:
                                                                                                                                                                                                                                                                                                                                                                                                                  human:*
                                                                                                                                                                                                                                                                           archeap:
   665
660
677
355
616
616
622
300
665
206
665
206
367
367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GenCore version (c) 1993 - 2004
                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gapext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           315518202 residues
   Q8IVT8
Q96N49
Q920R2
Q99MG6
                                                                                                                                                                               IJ
                                                                                                                                                                                                               SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mode1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5.1.6
Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1017041
OBivt8 homo sapien
Q96n49 homo sapien
Q96n29 mus musculu
Q99m96 mus musculu
Q99m96 mus musculu
Q99m96 mus musculu
Q99m95 mus musculu
Q99m95 mus musculu
Q99m95 mus musculu
Q96m915 mus musculu
Q96m91 mus musculu
Q96m91 mus musculu
Q96m91 mus musculu
Q96m91 mus musculu
Q96m91 mus musculu
Q96m91 mus musculu
Q96m91 mus musculu
Q9m91 mus musculu
Q9m91 mus musculu
Q9m91 mus musculu
Q9m91 mus musculu
Q9m91 mus musculu
                                                                                                                                                                               Description
```

ALIGNMENTS

45	-	43 2		41	40	9	38 3	37 :	36 :	35	34	33	32 4	31 4		29		27									18	17
269	272	280.5	285.5	287	306	319	347.5	347.5	182.5	397	397	403	403.5	403.5	411	413	413	416	19.5	121.5	123.5	123.5	425	430	436	140.5	447	450
17.2	17.4	17.9	18.3	18.4	19.6	20.4	22.2	22.2	24.5	25.4	25.4	25.8	25.8	25.8	26.3	26.4	26.4	26.6	26.8	27.0	27.1	27.1	27.2	27.5	27.9	28.2	28.6	28.8
241	290	476	476	369	177	303	411	411	354	452	452	436	360	353	439	367	318	367	369	369	398	378	411	362	382	368	383	909
U	v	u	U	U	11	4	IJ.	u	4.	11	H	11	13	13	ហ	11	11	11	13	13	11	13	4	13	13	4.	13	տ
Q9VVW4	Q86P14	9VHV8	046122	044128	Q9CSL5	Q9NSW1	Q9VVW5	Q95SV1	Q8N4A4	Q7TNL7	Q8K1S9	Q99KC2	Q7ZVL8	042253	Q8IG35	Q63683	1NZ080	Q64193	Q90W58	Q91790	Q8BFV3	Q91663	Q13649	Q803B2	Q7T2L8	QBNFJO	Q8UW48	Q8ST18
Q9vvw4 drosophila	Q86p14 drosophila	Q9vhv8 drosophila	O46122 drosophila	O44128 caenorhabdi	ŧπ	Q9nsw1 homo sapien	Q9vvw5 drosophila	Q95sv1 drosophila	Q8n4a4 homo sapien	Q7tnl7 mus musculu	Q8kls9 mus musculu	mue	brac		Ω	Q63683 rattus norv	Q80znl mus musculu	Q64193 rattus sp.	Q90w58 xenopus lae	Q91790 xenopus lae	Q8bfv3 mus musculu	Q91663 xenopus lae	2	Q803b2 brachydanio	Q7t2l8 brachydanio		Q8uw48 fugu rubrip	Q8stl8 caenorhabdi

OSIVIS SIVIBO RESULT 1 L. Submitted (DEC-2002) to the EMBL/GenBank/DDBJ databases. R. EMBL; BC042101; AAH42101.1; R. GO; GO:0017017; F:MAP kinase phosphatase activity; IEA. R. GO; GO:0006470; P:pyrotein amino acid dephosphorylation; IEA. R. InterPro; IPR000340; DS_phosphatase. InterPro; IPR000340; DS_phosphatase. InterPro; IPR000343; MAPK_phosph. R. InterPro; IPR000387; TYR_phosphatase. Pfam; PF00782; DSPc; 1. R. Pfam; PF00782; DSPc; 1. R. Pfam; PF00581; Rhodanese; 1. R. PRINTS; PR01764; MAPKPHPHTASE. R. PROSITE; PS00195; DSPc; 1. R. PROSITE; PS00195; NHOD; 1. R. PROSITE; PS00195; TYR_PHOSPHATASE 1; 1. R. PROSITE; PS00183; TYR_PHOSPHATASE 1; 1. R. PROSITE; PS00183; TYR_PHOSPHATASE DUAL; 1. R. PROSITE; PS50056; TYR_PHOSPHATASE DUAL; 1. R. PROSITE; PS50056; TYR_PHOSPHATASE DUAL; 1. Query Match Best Local Similarity Matches 300; Conserv OBIVIE PRELIMINARY; PRT; 662 AA. 19AIVH8; O1-MAR-2003 (TrEMBLrel. 23, Created) 01-MAR-2003 (TrEMBLrel. 23, Last sequence update) 01-OCT-2003 (TrEMBLrel. 25, Last annotation update) Similar to dual specificity phosphatase 16. Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. Strausberg R.; SEQUENCE FROM N.A. NCBI_TaxID=9606; Homo sapiens (Human) TISSUE=Duodenum; 99.2%; Score 1552; DB 4; 99.3%; Pred. No. 4.6e-138; tive 1; Mismatches 1; Length 662;

Conservative

Indels

0

Gaps

유 영 당 명 당 음

241 181 181 121 121 19 61 _

Ş 밁 Ś 멼 Ś

δ 문

301 301

Ŋ.

-Q

Q96N49; 01-DEC-2001 01-DEC-2001 01-OCT-2003

Q96N49

N

```
R GO; GO:0016787; F:hydrolase activity; IEA.

R GO; GO:0017017; F:MAP kinase phosphatase activity; IEA.

R GO; GO:0017017; F:MAP kinase phosphatase activity; IEA.

R GO; GO:0006470; P:protein amino acid dephosphorylation; IEA

R InterPro; IPR000340; DS_phosphatase.

R InterPro; IPR000343; MAPK_phosphatase.

R InterPro; IPR000387; TYR_phosphatase.

R Ffam; PF00782; DSPc; 1.

R Pfam; PF00781; Rhodanese; 1.

R PFAm; PF00581; Rhodanese; 1.

R RRINTS; PR01764; MAPKPHHTASE.

R SMART; SM00195; DSPc; 1.

R PROSITE; SM00195; DSPc; 1.

R PROSITE; PS00383; TYR_PHOSPHATASE 1; 1.

R PROSITE; PS00383; TYR_PHOSPHATASE 1; 1.

PROSITE; PS00383; TYR_PHOSPHATASE 1; 1.

PROSITE; PS00383; TYR_PHOSPHATASE DUAL; 1.

W HYPOTHETICAL STATE PHOSPHATASE DUAL; 1.

W HYPOTHETICAL STATE PHOSPHATASE DUAL; 1.
                                               Query Match 98.
Best Local Similarity 99.
Matches 299; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Isogai T.;
"NEDO human cDNA sequencing project.";
Submitted (OCT-2001) to the EMBL/GenBank/DDBJ
EMBL; AK055973; BAB71060.1; -.
HSSP; Q16828; 1MKP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Tashiro H., Yamazaki M., Watanabe K., Kumagai A., Itakura S., Fukuzumi Y., Fujimori Y., Komiyama M., Sugiyama T., Irie R., Otsuki T., Sato H., Wakamatsu A., Ishii S., Yamamoto J., Isono Y., Kawai-Hio Y., Saito K., Nishikawa T., Kimura K., Yamashita H., Matsuo K., Nakamura Y., Sekine M., Kikuchi H., Kanda K., Wagatsuma M., Murakawa K., Kanehori K., Takahashi-Fujii A., Oshima A., Sugiyama A., Kawakami B., Suzuki Y., Sugano S., Nagahari K., Masuho Y., Nagai K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-DEC-2001 (TrEMBLrel. 19, Cr
01-DEC-2001 (TrEMBLrel. 19, La
01-OCT-2003 (TrEMBLrel. 25, La
Hypothetical protein FLJ31411.
Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ĹVHĆĽAGÍSKSATÍAÍAYÍMKRMDMSĽDEAYŘFVKEKRPTISPNFNFĽGQĽĽDYEKKÍKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ONGIGYVLNASNTCFKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LAGGFABFŚRCFPGLCEGKŚTLVPTCIŚQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         pkvliteliqhsakhkvdidcsqkvvvydqssqdvasissdcfutvligkleksfnsvhl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MAHEMIGTOI VTERLVALLESGTEKVILI DSRPFVEYNTSHILEAININGSKLMKRRLOO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                   98.8%;
                                             1;
                                                                 Score 1545;
Pred. No. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Created)
Last sequence
Last annotation
                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sequence update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       665
                                     2.1e-137;
hes 2;
                                                                                     DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Å
                                                                                     4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       databases
                                                                                Length
                                     Indels
                                                                                  665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IEA.
                                   0
                                Gaps
                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                   AC CONTRACTOR OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY 
                      Query Match
Best Local S
Matches 290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 3
Q920R2
ID Q920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                        GO; GO:0005737; C:cytoplasm; IDA.
GO; GO:0005734; C:nucleus; IDA.
GO; GO:0005634; C:nucleus; IDA.
GO; GO:0005815; F:protein binding; IPI.
GO; GO:000188; P:inactivation of MAPK;
InterPro; IPR000340; DS phosphatase.
InterPro; IPR000340; DS phosphatase.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR001763; TXR_phosphatase.
Pfam; PF00782; DSPC; 1.
PFAM; PF00581; Rhodanese; 1.
PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPC; 1.
SMART; SM00195; DSPC; 1.
SMART; SM00195; DSPC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=1486429; PubMed=11489891;
Masuda K., Shima H., Watanabe M., Kikuchi K.
Masuda K., Shima H., Watanabe M., Kikuchi K.
MKP-7, a Novel Mitogen-activated Protein Ki.
Punctions as a Shuttle Protein.";
J. Biol. Chem. 276:33002-39011(2001).
EMBL; AB052157; BAB47240.1; -.
HSSP; Q16828; 1MKP.
MGD; WGI:1917936; Dusp16.
GO; GO:0005737; C:cyroplasm; IDA.
GO; GO:0005534; C:nucleus; IDA.
GO; GO:000188; P:inactivation of MAPK; IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q920R2;
Q920R2;
Q920R2;
Q1-DEC-2001 (TrEMBLrel. 19, Created)
Q1-DEC-2001 (TrEMBLrel. 19, Last sec
Q1-OCT-2003 (TrEMBLrel. 25, Last and
MAP kinase phosphatase-7,
DUSP16 OR 3830417M1/7RIK OR MKP-7.
Mus musculus (Mouse).
Eukaryota, Metazoa; Chordata; Crani,
Mammalia; Eutheria; Rodentia; Sciur
                                                                                                                                            PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS00383; TYR_PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR_PHOSPHATASE_2; 1.
PROSITE; PS50054; TYR_PHOSPHATASE_DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q920R2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   μ
                                                                                                           Kinase.
660 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             <u>۾</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNENELGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ģ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LVHCLAGIŚRŚATIAIAYIMKRMDMSLDEAYRFVKEKRPTIŚPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LAGGFAEFSRCFPGLCEGKSTLVPTCTSQPCLPVANIGPTLILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LAGGFABFSRCFPGLCEGKSTLVPTCISQPCLFVANIGPTRILPNLYLGCQRDVLNKBLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DKVLITELIQHSAKHKVDIDCSQKVVVVDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPPVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MAHEMIGTQIVTERLVALLESGTEKVLLIDSRDFVEYNTSHTLEAININCSKLMKRRLQQ
                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             302
                                97.0%;
96.0%;
                                                                                                         72695 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chordata; Craniata; Vertebrata; Euteleostomi;
Rodentia; Sciurognathi; Muridae; Murinae; Mus
          Score 1517; D. Pred. No. 9.3e 7; Mismatches
                 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Created)
                                                                                                    DB609FCDAD4AA309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sequence update)
          9.3e-135;
ches 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   660
                                                                                                                                                                                                                                                                                                                                                                                                                                                           IDA.
                                                       DB 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         K.;
Kinase Phosphatase,
                                                                                                 CRC64;
                                                  Length
                                                  660;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VDFIEKAKASNGCV
     0;
     Gaps
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
```

```
ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                음. 성
                                                                                                      SQUERRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR DORRAR 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ર્
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ঠ
Query Match
Best Local Similarity
Matches 289; Conserv
                                                                                                                                                                                                                                                                                                                                                   HSSP; Q16828; IMKP.

MGD; MGI:1917936; Dusp16.

GO: GO:0005737; C:cyroplasm; IDA.
GO: GO:0005634; C:nucleus; IDA.
GO: GO:0005515; F:protein binding; IPI.
GO: GO:000188; P:inactivation of MAPK; ID
InterPro; IPR000340; DS_phosphatase.
InterPro; IPR000343; MAPK_phosph.
InterPro; IPR0001763; Rhodanese-like.
InterPro; IPR000387; TYR_phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q99MG6;
Q99MG6;
01-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JUN-2001 (TrEMBLrel. 17, 01-JUN-2001 (TrEMBLrel. 17, 01-OCT-2003 (TrEMBLrel. 25, Map kinase phosphatase-M A1 DUSP16 OR 3830417M17RIK.
                                                                                                                                                                                                                                          Pfam; PF00782; DSPC; 1.
Pfam; PF00581; Rhodanese; 1.
PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPC; 1.
SMART; SM00450; RHOD; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mol. Cell. Biol. 20:6999-7009(
EMBL; AF345951; AAK35052.1; -.
HSSP; Q16828; 1MKP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mus musculus (Mouse)
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                           PROSITE; PS50206; RHODANESE 3; 1.

PROSITE; PS00383; TYR_PHOSPHATASE 1; 1.

PROSITE; PS50056; TYR_PHOSPHATASE_DUAL;

PROSITE; PS50054; TYR_PHOSPHATASE_DUAL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Yoshikai Y.;
"A Novel MKP is an Important Negative activation in Macrophages.";
                                                                                                    Hydrolase;
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matsuguchi
Yoshikai Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN=BALB/c;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ш
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               옄-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKDLM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DKVLITELIQHSAKHKVDIDCNQKVVVYDQSSQDVGSLSSDCFLTVLLGKLERSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MAHEMIGTQIVTESLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  T., Musikacharoen T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       302
            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (Mouse)
                                                                                                    AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20:6999-7009(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Chordata;
Rodentia;
                                                                                                    74550 MW;
                               96.8%;
95.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Last sequence update)
Last annotation update)
isoform.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Created)
            8;
         Score 1514; DB 11;
Pred. No. 1.9e-134;
8; Mismatches 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                    8B6D5B7096CEC2FC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Johnson T.R., Kraft A.S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Regulator of LPS-mediated
                                                                                                                                                  ۳
                                                                                                                                                                                                                                                                                                                                                                                                                                                            IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                      CRC64;
                                                     Length
                                                        677;
            0,
            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
            0
```

```
AC COOR BENEFIT OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET OF STREET 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ·δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
Query Match 87.9%;
Best Local Similarity 94.6%;
Matches 265; Conservative
                                                                                                                                      Pfam; PF00782; DSPC; 1.

Pfam; PF00782; Rhodanese; 1.

Pfam; PF00581; Rhodanese; 1.

PRINTS; PR01764; MAPKPHPHTASE.

SMART; SM00195; DSPC; 1.

SMART; SM00195; DSPC; 1.

SMART; SM00450; RHODANESE 3; 1.

PROSITE; PS5026; RHODANESE 3; 1.

PROSITE; PS50036; TYR PHOSPHATASE 1; 1.

PROSITE; PS50054; TYR PHOSPHATASE DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q9AG16;
Q9AG16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 MGD; MGI:1917936; Dusp16.
GO; GO:0005737; C:cytoplasm; IDA.
GO; GO:0005634; C:nucleus; IDA.
GO; GO:0005515; F:protein binding; IPI.
GO; GO:0000588; P:inactivation of MAPK;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-JUN-2001 (TrEMBLrel. 17, 01-JUN-2001 (TrEMBLrel. 17, 01-OCT-2003 (TrEMBLrel. 25, Map kinase phosphatase M BI DUSP16 OR 3830417MIRIK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Activation in Macrophages.";
Mol. Cell. Biol. 20:6999-7009(2001)
BMBL; AF345953; AAK35054.1; -.
HSSP; Q16828; 1MKP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                  Hydrolase;
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR000340; DS phosphatase.
InterPro; IPR00343; MAPK phosph.
InterPro; IPR001763; Rhodanese-11ke.
InterPro; IPR000387; TYR phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matsuguchi T., Musikacharoen T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM
STRAIN-BALB/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "A Novel MKP is an Important Negative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LAGGFABESRCFDGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MAHEMIGTOIVTERLVALLESGTEKVILIIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         옄:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ~임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LIHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFMGQLMDYEKTINN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDXSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MAHEMIGTQIVTESIVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKDLM
                                                                                                  355
                                                                                                                     Kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N.A.
                                                                                                  ξ
                                                                                                  39502 MW;
                                                                                                                                                                                                                                                                                                                                                       TYR_phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Last sequence update)
Last annotation updat
isoform.
    Score 1375.5; DB Pred. No. 1e-121; 8; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vert Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                  D52C29AE215CA285 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Johnson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Regulator
                                                                                                                                                                                                                                                                                                                                                                                                                                                         IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Vertebrata; Euteleostomi;
thi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                T.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₽
                                                   DB 11; Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kraft
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of LPS-mediated
         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A.S.,
         ω
··
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mug.
         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
         1:
```

```
RESULT DANS 11 DN STA
                       S
                                              В
                                                                  Ś
                                                                                              밁
                                                                                                                Ş
                                                                                                                                           B
                                                                                                                                                                8
                                                                                                                                                                                      Query Match
Best Local S
Matches 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                              PROSITE; PS00383; TYR PHOSPHATASE 1; 1
PROSITE; PS50056; TYR PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR PHOSPHATASE DUAL;
                                                                                                                                                                                                                                                  Hypothetical protein.
                                                                                                                                                                                                                                                                                                                             Submitted (JUN-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; BC031643; AAH31643.1; -.
GO; GO:0017017; F:MAP kinase phosphatase activity; IEA.
GO; GO:006470; P:Protein amino acid dephosphorylation; IEA.
InterPro; IPR000340; DS phosphatase.
InterPro; IPR000343; MAPK phosph.
InterPro; IPR000834; MAPK phosph.
InterPro; IPR00834; MAPK phosph.
InterPro; IPR00834; DSPC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-OCT-2002
01-OCT-2002
01-OCT-2003
                                                                                                                                                                                                                                                                                                       PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00195; DSPC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Hypothetical protein (Fragment).
Homo sapiens (Human).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=Brain, and Lung;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q8N5T1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q8N5T1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6
                       230
                                              121
                                                                                                                    110
                                                                                            61
                                                                                                                                                                                        251;
                                                                                                                                                                 50
                                                                                                                                         \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
IEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLG
                                                  CQRDVLNKELIQQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDF
                                    ĊQŔĎVĹŇŔĔĹMQQŇĠĬĠŸVĹŇĀŚNŤĊĐŔPĎPĬPĔŚĦPĹŔŶPVŇĎŚFĊĔŔĬĹPŴĹĎŔŚVĎF
                                                                                 KLEKSPŃSVHLLAGGPAEPSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLG
                                                                                               KLEKSFNSVHLLAGGFAEFSRCFPGLCEGKSTLVPTCI8OPCLPVANIGPTRILPNLYLG
                                                                                                                                              CSKLMKRRLQQDKVLITELIQHSAKHKVDIDCSQKVVVVDQSSQDVASLSSDCFLTVLLG
                                                                                                                               ĊŚĸĹMĸĸĸĹQQDĸvĹĬŢĔĹĬQĦŚĀĸĦĸvĎĬĎĊŚĢĸvvvyĎĠŚŚQĎvĀŚĹŚŚĎĊŦĹŢvĽĹĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ᆫ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LIHCLAGISRSATIAIAYIMKRMDMSLDEAYR---RQKPT 277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVXEKRPT 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANTGPTRILPNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LAGGPAEFSRCFPGLCEGKSTLVPTCISOPCLPVANIGPTRILPNLYLGCQRDVLNKDLM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DRVLÍTELÍQHSAKHKVDÍDCNQKVVVYDQSSQDVGSLSSDCFLTVLLGKLERSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         616 AA; 67636 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 (TrEMBLrel. 22, 0
2 (TrEMBLrel. 22, 1
3 (TrEMBLrel. 25, 1
                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                              83.9%;
                                                                                                                                                                               Score 1312; DB 4;
Pred. No. 2.2e-115;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Created)
                                                                                                                                                                                                                                2CB0B14482F2AD72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A
                                                                                                                                                                                                                                CRC64;
                                                                                                                                                                                                       Length
                                                                                                                                                                                Indels
                                                                                                                                                                                                       616;
                                                                                                                                                                               0;
                                                                                                                                                                              Gaps
               289
                                    180
                                                            229
                                                                                   120
                                                                                                         169
                                                                                                                                 60
                                                                                                                                                        109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60
```

```
Q99WG5
ID Q99WG5
ID Q99WG5
ID Q99WG5
AC Q99WG5
AC Q99WG5
AC Q99WG5
DT 01-JUN-2001 (TrEMBLrel. 17, Last sequen
DT 01-JUN-2001 (TrEMBLrel. 17, Last sequen
DT 01-GCT-2003 (TrEMBLrel. 25, Last annota
GN DUSP16 OR 3830417M17RIK.

OS Mus musculus (Mouse).

OC Mammalia, Eutheria; Rodentia; Sciurogna
RN DUSP16 OR 3830417M17RIK.

OC Mammalia, Eutheria; Rodentia; Sciurogna
RN CBI_TaxID=10090;
RP SEQUENCE FROM N.A.
RC STRAIN=BALB/c;
RA Matsuguchi T., Musikacharoen T., Johnso
RA Yoshika! Y.;
RL Mol. Cell. Biol. 20:6999-7009(2001).

DR MGD; MGI:1917936; DMsp16.
DR MGD; MGI:1917936; DMsp16.
DR MGD; MGI:1917936; DMsp16.
DR G0; G0:0005513; C:cytoplasm; IDA.
G0; G0:0005534; C:nucleus; IDA.
G0; G0:0005515; F:protein binding; IPI.
G0; G0:0005515; F:protein binding. IPI.
G0; G0:0005515; F:protein binding. IPI.
G0; G0:0005515; F:protein binding. IPI.
G0; G0:0005515; F:protein binding. IPI.
G0; G0:0005515; F:protein binding. IPI.
G0; G0:0005515; F:protein binding. IPI.
G0; G0:0005515; F:protein binding. IPI.
G0; G0:0005515; F:protein binding. IPI.
G0; G0:0005515; F:protein binding. IPI.
G0; G0:0005515; F:protein binding. IPI.
G0; G0:0005515; F:protein binding. IPI.
DR ROS:TE; DF00381; TYR DNOSPhatase.
DR InterPro; IPR00343; MARK Dhosph.
DR InterPro; IPR00343; MARK Dhosph.
DR InterPro; IPR00316; TYR DNOSPhatase.
DR Pfam; PP00581; RHODNISE 3; 1.
DR PGSITE; PS00581; RHODNISE 3; 1.
DR PGSITE; PS00581; TYR PHOSPHATASE 1; 1.
DR PROSITE; PS00584; TYR PHOSPHATASE DDUAL;
SQ SEQUENCE 622 AA; 68672 MW; 6C0CA486
                                           á
                                                                                      밁
                                                                                                                               Ś
                                                                                                                                                                               뮍
                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                     맑
                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MGD; MGI:1917936; Dusp16.

GO; GO:0005737; C:cytoplasm; IDA.
GO; GO:0005737; C:cytoplasm; IDA.
GO; GO:0005634; C:nucleus; IDA.
GO; GO:0005615; F:protein binding; IPI.
GO; GO:0005115; F:protein binding; IPI.
GO; GO:0005115; F:protein binding; IPI.
GO; GO:000188; P:inactivation of MAPK; ID
Interpro; IPR000340; DS_phosphatase.
Interpro; IPR000343; MAPK phosph.
Interpro; IPR001763; Rhodanese-like.
Interpro; IPR001763; Rhodanese-like.
Interpro; IPR000387; TYR_phosphatase.
Pfam; PF00782; DSPC; 1.
Pfam; PF00782; DSPC; 1.
Pfam; PF00782; DSPC; 1.
SMART; SM00195; DSPC; 1.
SMART; SM00195; DSPC; 1.
SMART; SM00195; DSPC; 1.
SMART; SM00195; DSPC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PROSITE; PS50206; RHODANESE 3; 1.
PROSITE; PS00383; TYR_PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR_PHOSPHATASE_DUAL;
PROSITE; PS50054; TYR_PHOSPHATASE_DUAL;
Hydrolase; Kinase.
SEQUENCE 622 AA; 68672 MW; 6C0CA486F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matsuguchi T., Musikacharoen T., Johnson T.R., Kraft A.S.,
Yoshikai Y.,
"A Novel MKP is an Important Negative Regulator of LPS-mediated
                                        241
                                                                                                                               181
                                                                                                                                                                               121
                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                               234;
                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                      _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNENFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                     QQNGIGYVINASNTCPKPDFİPESHFLRVPVNDSFCEKİLPWLDKSVDFİEKAKASNGCV
                                                                                                  QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                    LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                                                                                                                                                                                     MAHEMIGTOIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININGSKLMKRRLQQ
                                                                                                                                                                                                                                               DRVLÍTELÍÓHSÁKHKVDÍÐCNOKVVVYDÓSSÓÐVGSLSSDCFLTVLLGKLERSFNSVHL 120
                                                                                                                                                                                                                                                                               DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSENSVHL 120
                                                                                                                                                                                                                                                                                                                                          MAHEMIGTOIVTESLVALLESGTEKVLLIDSRÞFVEYNTSHILEAININCSKLMKRRLÓO
                                                                                                                                                                               FA--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QLLDYEKKIKNOT 253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QLLDYEKKIKNQT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLG
                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                75.0%;
77.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 1172.5;
Pred. No. 3.5e-
8; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6C0CA4E6E9099B98 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sequence update) annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                        .5e-102;
les 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 11; Length
                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                              -----DLM
                                                                                                                                                                                                                                                                                                                                                                                                                                      55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   622;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŽX
                                                                                                                240
                                                                                                                                                              125
                                                                       185
                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
```

ij

```
PRESULT OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTROL OF A CONTR
                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                       ঠ
                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                      5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ş
                                                                문
                                                                                                             δ
                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF00782; DSPC; 1.

Pfam; PF00581; Rhodanese; 1.

PRINTS; PR01764; MAPKPHPHTASE.

SMART; SM00195; DSPC; 1.

SMART; SM00195; DSPC; 1.

SMART; SM00450; RHOD; 1.

PROSITE; PS50266; RHODANESE 3; 1.

PROSITE; PS00383; TYR_PHOSPHATASE 1; 1.

PROSITE; PS50054; TYR_PHOSPHATASE_2; 1.

PROSITE; PS50054; TYR_PHOSPHATASE_DUAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR000340; I
InterPro; IPR008343; N
InterPro; IPR001763; I
InterPro; IPR000387; T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q9AG15;
Q9AG15;
01-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hydrolase;
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mus musculus (Mouse)
Eukaryota; Metazoa; (
Mammalia; Eutheria; I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Map kinase phosphatase-M B2 isoform.
DUSP16 OR 3830417M17RIK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AF345954; AAF
HSSP; Q16828; 1MKP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN-BALB/c;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Activation in Macrophages.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matsuguchi
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Sin
hes 210;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Novel MKP is an Important Negative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  , MGI:1917936; Dusp16.
GO:0005737; C:cytoplasm; IDA.
GO:0005634; C:nucleus; IDA.
GO:0005515; F:protein binding; IPI.
GO:0000188; P:inactivation of MAPK;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cell.
                             241
                                                                        126
                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           186
                                                                                                                    181
                                                                                                                                                                                                                                                                  13
                                                                                                                                                                                                                                                                                                            19
                                                                                                                                                                                                                                                                                                                                                           \mathbf{L}
                                                                                                                                                                                                                                                                                                                                                                                                           μ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
LVHCLAGISRSATIAIAYIMKRMDMSLDBAYRFVKEKRPT
                                                                                                     QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                   LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                      DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                    MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILBAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                        QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                               DRVLITELIQHSAKHKVDIDCNQKVVVYYDQSSQDVGSLSSDCFLTVLLGKLERSFNSVHL
                                                                                                                                                                                                                                                                                                                                                           MAHEMIGTQIVTESLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LIHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFMGQLMDYEKTINN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Biol. 20:6999-7009(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               T., Musikacharoen T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300 AA; 33624 MW; 4C61846ACDF0F456 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAK35055.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              66.1%;
75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DS_phosphatase.
MAPK_phosph.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYR_phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rhodanese-like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          8,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 1034;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata; I
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Johnson T.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                No. 1.8e-89;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Regulator
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ۲
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kraft A.S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LPS-mediated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Euteleostomi; 
; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300;
                                                                                                                                                                    -----DLM
                                                                                                                                                                                                                                                                                                                                                                                                                                                          58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JNK
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                    240
                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             245
                                                                          185
                                                                                                                                                                    125
                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                       2
    RESULT 10
Q7TSZ9
ID Q7TSZ
AC Q7TSZ
DT 01-OC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESIDET CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CONTROL OF CON
                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                    밁
                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR002965; Prich extensn.
InterPro; IPR001763; Rhodanese-like.
InterPro; IPR00387; TR phosphatase.
Pfam; PF00782; DSPc; 1.
PRINTS; PR01217; PRICHEXTENSN.
SMART; SM00195; DSPc; 1.
SMART; SM00195; DSPc; 1.
SMART; SM00195; RHOD; 1.
    Q7TSZ9;
Q7TSZ9;
01-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROSITE; PS50206; RHODĀNESE 3; 1.
PROSITE; PS502083; TYR PHOSPHATASE 1; 1.
PROSITE; PS50056; TYR PHOSPHATASE 2; 1.
PROSITE; PS50054; TYR PHOSPHATASE DUAL; 1.
SEQUENCE 625 AA; 65826 MW; C7C80840787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; BC045110; AAH45110.1; -. GO; GO;0017017; F:MAP kinase phosphatase activity; IEA. GO; GO:0006470; F:protein amino acid dephosphorylation; InterPro; IPR000340; DS phosphatase. InterPro; IPR000343; MAPK phosph.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-JUN-2003 (TrEMBLrel 24, Created)
01-JUN-2003 (TrEMBLrel 24, Last sequence up
01-OCT-2003 (TrEMBLrel 25, Last annotation
Similar to dual specificity phosphatase 8
Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Strausberg R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q86SS8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q86SS8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE=Brain,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             186
                                                                                                                                                                                                                299
                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                            239
                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                             179
                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 QGKVTIAELIQPAARSQVEATEPQDVVVYDQSTRDASVLAADSFLSILLSKLDGCFDSVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                K 299
                                                                                                                                                                    7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MAHEMIGTQIV-TERLVALLESGTEKVLLIDSRPPVBYNTSHILBAININGSKLMKRRLQ
                                                                                                                                                                                                                                                             ODKYLITELIOHSAKHKYDIDCSOKVYYYDOSSODVASLSSDCFLTVLLGKLEKSFNSVH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MAGDRIPRKVMDAKKLASIIRGGPGGPLVIDSRSFVEYNSWHVLSSVNICCSKLVKRRLQ
                                                                                                                                                                                                                                                                                                               CVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ILTGGFATFSSCFPGLCEGKPAALLPMSLSQPCLPVPSVGLTRILPHLYLGSQKDVLNKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LIHCLAGISRSATIAIAYIMKRMDMSLDEAYR----RQKPT
                                                                                                                                                                                                                                                                                                                                                              LMTQNGISYVLNASNSCPKPDFICESRFMRVPINDNYCEKLLPWLDKSIEFIDKAKLSSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (JAN-2003) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                      301
       (TrEMBLrel. 25,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Astrocytoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       63.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   55;
    Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 989; DB 4;
Pred. No. 8.3e-85;
                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C7C808407B724FFC CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           625
                                                    ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
```

180 238 240 298 300 2; 59 60 119

```
RESULT 11
Q8BZE4
      PAC I
                                                                                                                                             δ
                                                                                                                                                                                     밁
                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                      맑
                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                    맑
                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RC STRAIN-C57BL/6; TISSUE-Brain;
RX MEDLINE-22388257, pubMed=12477932;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaeter C.F., Bhat N.K.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaeter C.F., Bhat N.K.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaeter C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Mhiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Rodriguez A.C., Grinwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
RA Jones S.J., Marra M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local :
Q8BZE4;
Q8BZE4;
01-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Strausberg R.;
Strausberg R.;
Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.
Submitted (MAY-2003) to the EMBL, GenBank/DDBJ databases.
EMBL; BC052705; AAH52705.1; -
EMBL; BC052705; AAH52705.1; -
SEQUENCE 665 AA; 69021 MW; 9166E36A8835249F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN=C57BL/6; TISSUE=Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Jones S.J., Marra M.A., "Generation and initial analysis of more than 15,000 full-length human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Dusp8 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     mouse cDNA sequences."; -
c. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                                                                  241
                                                                                                                   301
                                                                                                                                                 299
                                                                                                                                                                                                                     239
                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                    179
                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                 \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 μ,
                                                                                                                                                                                                                                     ×
                                                                                                                                                  K 299
                                                                                                                                                                      QVIVHCLAGISRSATIAIAYIMKTMGMSSDDAYRFVKDRRPSISPNFNFLGQLLEYERSL
                                                                                                                                                                                     CVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYBKKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                         LLAGGFAEFSRCFPGLCEGKSTLVPT-CISQPCLPVANIGPTRILPNLYLGCQRDVLNKE
                                                                                                                                                                                                                                                                                                     ILTGGFÄTFSSCFPGLCEGKPATLPSMSLSQPCLPVPSVGLTRILPHLYLGSQKDVLNKD
                                                                                                                                                                                                                                                                                                                                                                    QGKVTIAELIQPATRSQVDATEPQDVVVYDQSTRDASVLAADSFLSILLSKLDGCFDSVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                            MAHEMIGTQIV-TERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQ
                                                                                                                                                                                                                                                                                                                                                                                                  ODKYLITELIQHSAKHKYDIDCSQKYYYYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSYH
                                                                                                                                                                                                                                                                                                                                                                                                                                   MAGDRLPRKVMDAKKLASLLRGGPGGPLVIDSRSFVBYNSCHVLSSVNICCSKLVKRRLQ
                                                                                                                     301
(TrEMBLrel.
                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (TrEMBLrel. 25, Last (TrEMBLrel. 25, Last
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         63.0%;
62.5%;
23,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           55;
Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 985;
Pred. No. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sequence update)
annotation update)
                             206
                             ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 11;
.2e-84;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        56;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                       300
                                                                                                                                                                                                     298
                                                                                                                                                                                                                                                                    238
                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                     60
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                      ㅂ
                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local (
                                                                                                                                                                                                   Q96QS2 PKBLAIN....
Q96QS2;
Q96QS2;
Q96QS2;
Q1-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Truncated MAPK phosphatase 7.
                     EMBL; AY03827; ARK69770.1; -
GO; GO:0017017; F:MAP kinase phosphatase activity; IEA.
GO; GO:006470; P:protein amino acid dephosphorylation;
InterPro; IPR008343; MAPK phosph.
InterPro; IPR001763; Rhodanese-like.
PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00450; RHOD; 1.
                                                                                           suppressor locus.";
Submitted (JUN-2001) to the EMBL/GenBank/DDBJ
                                                                                                                     Montpetit A., Boily G., Sinnett "A detailed transcriptional map
                                                                                                                                                                                      Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                           NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PR01764; MAPKPHPHTASE.
SMART; SM00450; RHOD; 1.
PROSITE; PS50206; RHODANESE 3; 1.
SEQUENCE 206 AA; 22566 MW; E7FDF5C01ADC2F73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The FANTOM Consortium,
the RIKEN Genome Exploration Research Group
"Analysis of the mouse transcriptome based
60,770 full-length cDNAs.",
Nature 420.563-573(2002),
EMBL; AK035652; BAC29138.1;
MGD; WGI:1098836; DGErtG213e.
GG; GO:0017017; F:MAP kinase phosphatase ac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GO; GO:0017017; F:MAP kinase phosphatase activity; IEA. GO; GO:0006470; P:protein amino acid dephosphorylation; InterPro; IPR008343; MAPK_Dosph.
InterPro; IPR001763; Rhodanese-like.
Pfam; PF00581; Rhodanese; 1.
                                                                                                                                                                                                                                                                                                                              12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-MAR-2003 (TrEMBLrel. 23, Last sequence 01-CCT-2003 (TrEMBLrel. 25, Last annotation Truncated MAPK phosphatase 7 homolog.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN=C57BL/6J; TISSUE=Urinary bl
MEDLINE=22354683; PubMed=12466851;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
STRAIN=C57BL/6J; T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           D6ERTD213E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local
                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              μ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                         LAGGFAEFSRCFPGLCEGKSTLVPTCISOPCLPVANIGPTRILPNLYLGCQRDVLNK 177
                                                                                                                                                                                                                                                                                                                                                                                                            DKYLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTYLLGKLEKSENSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                           MAHEMIGTQI VTESLVALLESGTEKVLLIDSR PFVEYNTSHILEAININGSKLMKRRLOO
                                                                                                                                                                                                                                                                                                                                                         LAGGFABFSRCFFGLCEGKSTLVPTCISQFCLFVANIGFTRILFNLYLGCQRDVLNK 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                    Chordata; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              57.0%;
97.7%;
                                                                                                                     Sinnett D.; onal map of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2;
                                                                                                                                                                                Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 891; DB 11;
Pred. No. 3.8e-76;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  bladder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                annotation
                                                                                                                     chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Group Phase I & II Team;
based on functional annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           update)
                                                                                                                                                                                                                                                 update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 206;
                                                                                                                   12p12 tumor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                        IEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of.
                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
```

```
PERCUTT ON A REAL PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF 
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SQR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q8ST19;
Q8ST19;
01-JUN-2002
01-JUN-2002
01-OCT-2003
                                                                                                                                                                                                                                                  EMBL; U23178; AAK68299.1; -...
WORTHER, Q16828; IMKR:
WORTHER, FORBB1.1a; CE27918.
GO; GO:0016787; F:hydrolase activity; IEA.
GO; GO:0016787; F:MAP kinase phosphatase activity; IEA.
GO; GO:0006470; F:MAP kinase phosphatase activity; IEA.
GO; GO:0006470; P:protein amino acid dephosphorylation;
InterPro; IPR000340; Bybosphatase.
InterPro; IPR000343; MAPK phosph.
InterPro; IPR000163; Rhodanese-like.
InterPro; IPR000187; TYR phosphatase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Caenorhabditis elegans.
Caenorhabditida; Rhabditoidea;
Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
Phabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROSITE; PS50206; RHODANESE_3; SEQUENCE 143 AA; 16077 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Direct Submission.";
Submitted (JUN-2001) to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Genome sequence of the nematode C. el
investigating biology. The C. elegans
Science 282:2012-2018(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Waterston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=Bristol N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (APR-1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN-Bristol N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=99069613;    PubMed=9851916;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hypothetical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "The sequence of C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              124;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LAGADA 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LAGGFA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (TrEMBLrel. 21, Created)
(TrEMBLrel. 21, Last sequence update)
(TrEMBLrel. 25, Last annotation update)
protein F08B1.1a.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            elegans
b) to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 39.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cosmid F08B1.";
EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 610;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred. No. 9.50
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1.
5213A213AA7E5974
                            A0D9153DE6326B43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       elegans: a platform
ns Sequencing Consort
                                                                                                                                                                                                                                                                                                                                                  dephosphorylation; IEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 143;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CRC64
                            CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Consortium.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
```

```
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
2782F3
27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                MEDLINE-22386257; PubMed=12477932;

X Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

X Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

X Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

X Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

X Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

X Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

X Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

X Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

X Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

X Brownstein M.J., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

X Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

X Brownstein M.J., Wadin T.B., Toshiyuki S., Carninci P., Prange C.,

X Brownstein M.J., Wadin T.B., Toshiyuki S., Carninci P., Prange C.,

X Brownstein M.J., Wadin T.B., Toshiyuki S., Carninci P., Prange C.,

X Brownstein M.J., Wadin T.B., Toshiyuki S., Carninci P., Prange C.,

X Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

X Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunzatne P.H.,

X Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunzatne P.H.,

X Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

X Hold R., Walley R.C., Shevchenko Y., Bouffard G.G.,

X Hones S. T. Maxram M., Schmutz J., Myers R.M., Butterfield Y.S.,

X Tones S. T. Maxram M. Salska U., Smailus D.E., Schnerch A., Schein J.E.,

X Tones S. T. Maxram M. Salska U., Smailus D.E., Schnerch A., Schein J.E.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 131; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q7SZF3;
01-OCT-2003
01-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hypothetical protein.

Hypothetical protein.

Brachydanio rerio (Zebrafish) (Danio rerio).

Brachydanio rerio (Zebrafish) (Danio rerio).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;

Cyprinidae; Danio.
Strausberg R.;
Submitted (MAY-2003) to the
EMBL; BC052477; AAH52477.1;
                                                                                                    STRAIN=AB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN=AB; TISSUE=Body;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q7SZF3
                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                          "Generation and initial analysis of more than 15,000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                               Jones S.J., Marra M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14
                                                                                                                                                                                                  mouse cDNA sequences."
c. Natl. Acad. Sci. U.S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66 TELIQHSA-----KHKVDIDCSQKVVVYDQ-----SSQDVASL----SSDCFLTVLLGK 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LEKS--FNSVHLLAGGFAEFSRCFPGLCEGKS--TLVPTCISQPCL--PVANIGPTRILP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NENEMGQLLEYE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NENELGOLLDYE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NIYLGSQIDSLDETMLDALDISVVINLSMTCPKSVCIKEDKNFMRIPVNDSYQEKLSPYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NLYLGCQRDVLNKELIQQNGIGYVLNASYTCPKPDFIPE-SHFLRVPVNDSFCEKILPWL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKV----LI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PMAYEFLEKCRRAGKKCLIHCLAGISRSPTLAISYIMRYMKMGSDDAYRYVKERRPSISP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LEDTDKFRSVMVLEGGFKQFAQQYPQLCESSEGMTRLPQSLSQPCLSQPTGD-GITLITP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ISTCGLAALIREAPDTTLVVDCRGFTEYNESHVRHSMNAFFSKLIRRRLFENKLDDNCLI
                                                                                                       TISSUE=Body;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  36.0%;
42.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25,
                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Created)
                                    EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 563.
Pred. No.
                                                                                                                                                                                                        99:16899-16903 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1.7e-44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       87;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                           databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                 full-length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            68
```

```
RESULT 15
QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
ID QRR3L3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                        The FANTOM Consortium,

A the RIKEN Genome Exploration Research Group i

T "Analysis of the mouse transcriptome based or

1 60,770 full-length cDNAs.";

Nature 420:563-573 (2002).

R EMBL; BC025066; AAH25066.1; -.

R EMBL; AK035293; BAC29019.1; -.

R EMBL; AK08528; BAC34308.1; -.

R EMBL; AK088024; BAC40102.1; -.

R EMBL; AK088024; BAC4010.1; -.

R EMBL; AK0880357; BAC40196.1; -.

R EMBL; AK0880357; BAC40196.1; -.

R EMBL; AK088037; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK08808.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC29019.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL; AK088036; BAC40196.1; -.

R EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches 104
   Pfam; PF00782; DSPc; 1. Pfam; PF00581; Rhodanese; PRINTS; PR01764; MAPKPHPH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q8R3L3;
01-JUN-2002 (TrEMBLrel. 21, Created)
01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
01-JUN-2003 (TrEMBLrel. 25, Last annotation update)
Dual specificity phosphatase 10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN=C57BL/6J, and NOD;
TISSUE=Pancreas, Thymus, and Urinary bladder;
MEDLINE=22354683; PubMed=12466851;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Strausberg R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mus musculus (Mouse)
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hypothetical protein. SEQUENCE 367 AA; 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q8R3L3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            104;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15 LVALLESGTEKVLLIDSRPFVEYNTSHILBAININCSKLMKRR----LQQDKVLITELIQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VLVHCQAGISRSATICLAYLMKKKRVRLEEAFEFVKQRRSIISPNFSFMGQLLQFESQV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISDNFNFLGQLLDYEKKI 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STQYPDYCLKTRTLSVSSSQSSMESSCLSCATPQHDQGGPVEILPFLFLGSALHASKKDM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SRCFPGLC-----BGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEARSRLKSGLYSAVILYDERSSDTNTMKDDSTITLVHNALCRDTFSTEVYLLKGGYDRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LDRMGISALLNVSSNCPN-HFEGDYQYKCIPVEDNHKEDISSWFIEAIEFIDSVKDSNGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKL-EKSFNS-VHLLAGGFAEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (MAR-2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N.A.
MAPKPHPHTASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             40538 MW; F89997A415DAD6AC CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ť
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; Score 472.5; DB 13; Length ; Pred. No. 3.3e-36; 66; Mismatches 110; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Craniata; Vertebrata; I
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                case activity; IEA. dephosphorylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Group Phase I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             functional annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           II 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Murinae;
                                                                                                                                                                                                                IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Team;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 367;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
```

.

```
밁
                         δ
                                                     B
                                                                          δ
                                                                                                      밁
                                                                                                                            δ
                                                                                                                                                      밁
                                                                                                                                                                             Ş
                                                                                                                                                                                                         밁
                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                            SO DR DR DR SO SO SO
                                                                                                                                                                                                                                                         Query Match
Best Local S
Matches 106
                                                                                                                                                                                                                                                                                                        SMART; SM00195; DSPC; 1.

SMART; SM00450; RHOD; 1.

SMART; SM00450; RHODANESE 3; 1.

PROSITE; PS50056; RHODANESE 3; 1.

PROSITE; PS500383; TYR PHOSPHATASE 2; 1.

PROSITE; PS50056; TYR PHOSPHATASE DUAL; 1.

PROSITE; PS50054; TYR_PHOSPHATASE DUAL; 1.

Hydrolase.

SEQUENCE 483 AA; 52532 MW; 7797A1877D5
     408
                            243
                                                     352
                                                                              188
                                                                                                      294
                                                                                                                                140
                                                                                                                                                      234
                                                                                                                                                                                                         174
                                                                                                                                                                                                                                                         106;
                                                                                                                                                                                 85
                                                                                                                                                                                                                         27 LLIDSRPFVEYNTSHILEAININCS-KLMKRRLQQDKVLITELIQ-HSAKHKVDIDCSQK
                                                                                                                                                                                                                                                                      Similarity
                  HCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                IIVYDENTNEPSRVTPSQPLHIVLESLKREGKEPLVLKGGLSSFKQNHGNLCDNSLQLQE
HCQAGVSRSATIVIAYLMKHTRMTMTDAYKFVKGKRPIISPNLNFMGQLLEFEEDLNN
                                                                                                                                                                                                 VINVTTHLPLYHYEKGLF----NYKRLPATDSNKQNLRQYFEEAFEFIEEAHQCGKGLLI
                                                                                                     CREVGGGASAASSMLPQ-
                                                                                                                                                                          VVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHLLAGGFAEFSRCFPGLCEGK-----
                                                                                                                                                                                                                                                          Conservative
                                                                                                                            STLVPTCISOPCLP-VANIGPTRILPNLYLGCORDVLNKELIOONGIGY
                                                                                                                                                                                                                                                                    30.0%;
                                                                                                                                                                                                                                                         67;
                                                                                                    -SVPTTPDIENAELTPILPFLFLGNEQDAQDLDTMQRLNIGY
                                                                                                                                                                                                                                                     Pred. No. 1e-3
7; Mismatches
                                                                                                                                                                                                                                                                  Score 469; DB 1
Pred. No. 1e-35;
                                                                                                                                                                                                                                                                                                        7797A1877D986AA8 CRC64;
                                                                                                                                                                                                                                                                              DB 11;
                                                                                                                                                                                                                                                         95;
                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                 483;
                                                                                                                                                                                                                                                        30;
                                                                                                                                                                                                                                                      Gaps
  465
                                                                                                                            187
                                                    407
                                                                          242
                                                                                                    351
                                                                                                                                                                            139
                                                                                                                                                                                                     233
                                                                                                                                                                                                                              84
                                                                                                                                                     293
```

Search completed: June 21, 2004, 13:22:36 Job time: 24.7353 secs

```
Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                     Title:
Perfect score:
                                                                                                                                                                   Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                        Searched:
                                                                                                                                      Database
                                                                                                                                                                                                                                                                                    Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                   Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                        Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OM protein - protein search, using sw model
                                                                                                                                                                                                                                      DB DB
                                                                                                                                                                                                                                    eeq
geq
                                                                                                                                                                                                                                    length: 0
length: 2000000000
                                                                                     A Geneseq 29Jan04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
                                                                                                                                                                                                                                                                                                                                                  BLOSUM62
Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  June 21, 2004, 13:10:27 ; Search time 33.7291 Seconds (without alignments) 2529.847 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-029-345A-109_COPY_1_302
1564
                                                                                                                                                                                                                                                                                                                     1586107 ведв,
                                                                                                                                                                                                                                                                                                                                                                                                         1 MAHEMIGTQIVTERLVALLE......PNFNFLGQLLDYEKKIKNQT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Copyright
geneseqp1980s:*
geneseqp2000s:*
geneseqp20001s:*
geneseqp2001s:*
geneseqp2003as:*
geneseqp2003as:*
geneseqp2003as:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                      Gapext 0.5
                                                                                                                                                                                                                                                                                                                       282547505 residues
                                                                                                                                                                                                                                                                                        1586107
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

m
ä
3
Š
×
\vdash
됬
Ç,

×

Result	Score	Query Match	Length	B		ription
_	1564	100.0	665	5	ABR52381	Abr52381 Protein r
2	1564	100.0	665	s	ABR52407	7 Protein
·س	1552	•	665	4	AAE04834	Human SG
4.	1552	99.2	665	4.	AAU09016	
S	1552		665	Ŋ	AAU79156	Aau79156 Human dua
σ	1552	99.2	665	ហ	AAU09946	Aau09946 Protein s
7	1552		665	տ	AAU75789	Ξ.
œ	1552		665	տ	ABB97946	Abb97946 Human pro
9	1552	99.2	665	տ	AAU79929	Human
10	1552	99.2	. 665	տ	ABB97291	
11	1552	99.2	666	4	AAB20325	Aab20325 Human pro
12	1545	98.8	665	σ	ADA54744	Ada54744 Human pro
13	1544	98.7	665	ຫ	AAU79161	Aau79161 Human dua
14	1544	98.7	665	ហ	ABR52352	Abr52352 Protein r
15	1544		672	4.	AAM25744	Aam25744 Human pro
16	1542	98.6	302	ហ	ABR52425	Abr52425 Protein r
17	1542		665	v	AAU79162	Aau79162 Human dua
18	1526.5	•	664	տ	ABR52424	Abr52424 Protein r
19	1492	95.4	660	ຫ	ABR52385	Abr52385 Protein r
20	988	•	625	ហ	ABR52382	Abr52382 Protein r
21	988	•	625	ۍ	ABR52350	Abr52350 Protein r
22	988	•	625	0	ABG73440	Ξ.
23	985	63.0	663	Ŋ	AAW29150	Aaw29150 Dual-spec
24		63.0	663	σ	ARR52351	
S T	743 5				*********	

Jackson Siemers Krystek

S N DG

Feder J, Nelson T, Mintier G, Ramanathan Bol D, Schieven G, Finger J, Todderud CG, Mcatee P, Suchard S, Banas D;

C, Lee L; Bassolino

Ö

(BRIM) BRISTOL-MYERS SQUIBB CO

N-PSDB;

2002-599721/64. DB; ACC60559.

The invention relates to a novel isolated nucleic acid comprising a polynucleotide having a nucleotide sequence selected from 40 polynucleotides fully defined in the specification. The polynucleotide of

Novel polynucleotides encoding human phosphatase polypeptides useful the prevention or treatment of e.g. proliferative and cardiovascular

ä

Claim

5; Fig 12; 801pp; English.

45	44	43	42	41	40	39	38	37	36	35	34	ω ω	32	31	30	29	28	27	26
426	440.5	440:5	461.5	461.5	462.5	467.5	467.5	469	469	469	469	469	476	646	654.5	654.5	715.5	716	741
27.2	28.2	28.2	29.5	29.5	29.6	29.9	29.9	30.0	30.0	30.0	30.0	30.0	30.4	41.3	41.8	41.8	45.7	45.8	47.4
394	419	368	381	381	381	381	381	482	482	482	482	444	482	517	170	170	579	140	140
4	6	ហ	7	7	σ	6	ഗ	ហ	σ	w	w	σ	4	ហ	4	4	7	տ	ហ
AAG67627	ABP55026	AAE14240	ADE62625	ADD48300	ABP57087	ABP96803	ABR52383	ABJ05600	ABR52384	AAB29641	AAB18655	AAO20515	AAB73225	AAU79159	AAE06780	AAB66436	ADE08458	ABR52405	ABR52404
Aag6	Abps	Aael	Ade6	. Add4	Abps	Abps	Abrs	Abjo	Abre	Aab2	Aab1	Aao2	Aab7	Aau7	AaeC	Aabe	Adec	Abrs	Abrs
Aag67627	Abp55026	Aae14240	Ade62625	Add48300	Abp57087	Abp96803	Abr52383	Abj05600	Abr52384	Aab29641	Aab18655	Aao20515	Aab73225	Aau79159	Aae06780	Aab66436	Ade08458	Abr52405	Abr52404
Amino aci	Human dua	Human pro	Rat Prote	Rat Prote	моиве мкр	Human COP	Protein r	Breast ca	Protein r	Human dua	A human r	Protein o	Human pho	Human dua	Human dua	Human MAP	Novel pro	Peptide r	Peptide r

ALIGNMENTS

RESULT 1 ABRES 2381 IID ABRES 2381 IID ABRES 2381 AC ABRES XX AC ABRES XX DIT 19-J D 20-DEC-2000; 2000US-0256868P. 30-MAR-2001; 2001US-0280186P. 01-MAY-2001; 2001US-0287735P. 05-JUN-2001; 2001US-0295848P. 25-JUN-2001; 2001US-0300465P. antiproliferative; hepatotropic; nephrotropic; antiarthritic; antiproliferative; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart defect; congestive heart failure; cancer; human; mouse; yeast; rat; fruitfly. 20-DEC-2001; 2001WO-US050459 25-JUL-2002. WO200257460-A2. Homo sapiens. Protein relating to the invention SEQ ID NO: 109. 19-JUN-2003 ABR52381; ABR52381 standard; protein; 665 (first entry) Å

```
RESULT 2
ABR52407
ID ABR52407
XX
AC ABR5
XX
DT 19-(
XX
DT 29-(
XX
DE Pro(
XX
DE Pro(
XX
DE PR 20
PR 3(
PR 3(
PR 20
PR 20
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
PR 3(
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
Matches 302
                                  20-DEC-2000;
30-MAR-2001;
01-MAY-2001;
05-JUN-2001;
25-JUN-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              antiproliferative; hepatotropic; nephrotropic; antiarthritic; antiproliferative; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart defect; congestive heart failure; cancer; human; mouse; yeast; rat; fruitfly.
                                                                                                                                                                                                                                   20-DEC-2001;
                                                                                                                                                                                                                                                                                                    25-JUL-2002.
                                                                                                                                                                                                                                                                                                                                                              WO200257460-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABR52407 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             antiarthritic, antipsoriatic, cardiant, and cytostatic activity. The polymucleotide may have a use in gene therapy. A polymucleotide or polypoptide of the invention is useful for preventing, treating or ameliorating a medical condition, e.g. a proliferative disorder. They are also useful for treating e.g. liver disease, renal failure, immunological disorders including arthritis and psoriasis, cardiovascular disorders such as congenital heart defects and congestive heart failure, and connecr. A method of the invention is useful for diagnosing a pathological condition or susceptibility to a condition in a subject. The present sequence is used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         invention has antiproliferative, hepatotropic, nephrotropic,
                                                                                                                                                                                                                                                                                                                                                                                                                               sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            302;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          relating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYBKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKERLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                              ; 2000US-0256868P.
; 2001US-0280186P.
; 2001US-0287735P.
; 2001US-0295848P.
; 2001US-0300465P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                2001WO-US050459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ţ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         665 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 1564;
Pred. No. 3.4
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
```

Ś 片 Ś 8 Ş 밁 8 밁 Ś 밁 Ş

```
AABO4834
ID AABO
XX
AC AABC
XC AABC
XC Huma
XX
KW Humm
                                                                                                                                                                                                                                                                       망
                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                               뮍
                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Human; SGP002 phosphatase polypeptide; phosphatase-related disease; immune-related disorder; ocular disease; organ transplant rejection
                                           Human SGP002 phosphatase polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           polymucleotide having a nucleotide sequence selected from 40 polymucleotides fully defined in the specification. The polymucleotide of the invention has antiproliferative, hepatotropic, nephrotropic, antiarthritic, antipsoriatic, cardiant, and cytostatic activity. The polymucleotide may have a use in gene therapy. A polymucleotide or polympeptide of the invention is useful for preventing, treating or ameliorating a medical condition, e.g. a proliferative disorder. They are also useful for treating e.g. liver disease, renal failure, immunological disorders including arthritis and psoriasis, cardiovascular disorders such as congenital heart defects and congestive heart failure, and cancer. A method of the invention is useful for diagnosing a pathological condition or susceptibility to a condition in a subject. The present sequence is used in the exemplification of the invention
                                                                            10-SEP-2001
                                                                                                                                      AAE04834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Jackson
Siemers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention relates to a novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel polynucleotides the prevention or trea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (BRIM )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local
                                                                                                                                                                                                                                          301
                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           302;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       s, nG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BRISTOL-MYERS
                                                                                                                                                                                                               Ç,
                                                                                                                                                                                                                                       -업
                                                                                                                                    standard;
                                                                                                                                                                                                                                                                       LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                          LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                  QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                          LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                 QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                   DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILBAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    665 AA;
                                                                                                                                                                                                                                                                                                                                                                                           LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                           302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Feder J, Nelson T, Mintier G, Ramanathan C, Lee L; Bol D, Schieven G, Finger J, Todderud CG, Bassolino Mcatee P, Suchard S, Banas D;
                                                                          (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    treatment
                                                                                                                                    protein;
                                                                          entry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    801pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SQUIBB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ,;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 1564; DB 5;
Pred. No. 3.4e-164;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 human phosphatase polypeptides useful e.g. proliferative and cardiovascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         isolated nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        comprising
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ŭ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  in
                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
```

rejection;

'n,

```
The present invention relates to phosphatase polypeptides, nucleotide CC sequences encoding them, as well as various products and methods useful CC for the diagnosis and treatment of various phosphatase-related diseases CC and conditions. Substance that modulates the activity of phosphatase CC polypeptide is used to treat immune-related diseases and disorders, cardiovascular disease, brain or neuronal-associated diseases and CC cardiovascular disease, brain or neuronal-associated diseases and CC cardiovascular diseases, ancient of the control of the cardiovascular diseases of central and peripheral nervous system, CC haterial sclerosis, viral infections, infections caused by prions, CC lateral sclerosis, viral infections, infections caused by prions, Daterial and fungi, ocular diseases, diabetes, migraines, pain, sexual CC dysfunction, mood disorders, attention disorders, cognition disorders, CC hypotension, hypertension, psychotic disorders, neurological disorders, CC dyskinesias and organ transplant rejection. The present amino acid cessence is human SGP002 phosphatase polypeptide. This sequence is CC classified as dual specificity phosphatase (DSP) and MAP kinase
                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 300; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   metabolic disorder; haematopoietic cancer; mood disorder; cardiant; parkinson's disease; multiple sclerosis; amyotrophic lateral sclerosis; cardiovascular disease; brain; neuronal-associated disease; dyskinesia; attention disorder; cognition disorder; psychotic disorder; cytostatic; neurological disorder; virucide; nootropic; cerebroprotective; therapy; neuroprotective; antibacterial; vulnerary; tranquilliser; antiasthmatic; hypotensive; immunosuppressive; antisparatic; analgesic; hypottensive; antisparatic; antisparatic; antisparatic; antisparatic; antisparatic; antisparatic; antisparatic; antisparatic; antisparatic; antisparatic; antisparatic; antisparatic; antisparatic; chromosome 12p11.1-p12.1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel phosphatase polypeptide useful for treating cancers, immune-related diseases and disorders, cardiovascular disease, brain or neuronal-associated diseases and metabolic disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 7; Fig 2; 186pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2001-418058/44.
N-PSDB; AAD09492.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             28-DEC-1999;
25-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21-DEC-2000; 2000WO-US034736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200146394-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               infection;
metabolic (
                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    31-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (SUGE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               n GD, Fu.
T. Flanagan
   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUGEN INC
                                                                                                                                                                                                                                                                                                               665
DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL 120
                                                                                                MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                             MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            diabetes; pain; sexual dysfunction; Alzheimer's disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; 99US-0173255P.
; 99US-0175766P.
; 2000US-0178078P.
; 2000US-0179301P.
                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Martinez
anagan P;
                                                                                                                                                                                                                                                                                                               ₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
1. .173
/label= Catalytic_don
158. .297
                                                                                                                                                                                                                     99.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ₽,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Phosphatase_domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Catalytic_domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Whyte
                                                                                                                                                                                 ۲.
                                                                                                                                                                                     Score 1552; DB 4;
Pred. No. 7.4e-163;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Manning
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <u>ڻ</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sudarsanam
                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                  665;
                                                                                                                                                                                 0,
                                                                                                                                                                                 Gaps
                                                             60
                                                                                                                          60
                                                                                                                                                                                        0;
```

S 밁 ş

The invention relates to two novel human dual specificity phosphatases designated 2117 and 38692, the nucleic acids encoding them (including fragments, allelic variants, their complements or nucleic acids that hybridise to them) and antibodies raised against the proteins. The

```
RESULT 4
AAU09016
AAU09016
AC AAU0
AC AAU0
AC AAU0
AC Huma
AC Huma
AC Huma
AC Huma
AC Huma
AC Celli
KW Inheu
AC Celli
KW Inheu
AC Celli
KW Inmu
AC Celli
KW Inmu
AC Celli
KW Inmu
AC Celli
KW Inmu
AC Celli
KW Inmu
AC Celli
KW Inmu
AC Celli
KW Inmu
AC Celli
KW Inmu
AC Celli
KW Inmu
AC Celli
KW Inmu
AC Celli
KW Inmu
AC Celli
KW Inmu
AC Celli
KW Inmu
AC Celli
KW Inmu
AC Celli
KW Inmu
AC Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
Celli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          묽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rheumatoid arthritis; multiple sclerosis; Crohn's disease; liver disorder; erythroid associated disorder; haemolytic anaemia; cellular proliferative; differentiative disorder; leukaemia;
                                                                                                                       Claim
                                                                                                                                                                    of disease
                                                                                                                                                                                                                                              N-PSDB;
                                                                                                                                                                                                                                                                                                                     Meyers
                                                                                                                                                                                                                                                                                                                                                                                                                   24-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23-MAR-2001; 2001WO-US009477.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Active-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human dual specificity phosphatase 21117.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAU09016
                                                                                                                                                                                                                                                                          WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200173059-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                acute myeloid leukaemia; carcinoma; sarcoma; metastatic cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human; dual specificity phosphatase 21117; hepatotropic; cytostatic; hematopoietic disorder; autoimmune disorder; diabetes mellitus;
                                                                                                                                                                                                                                                                                                                                                                   (MILL-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       immunogen.
                                                                                                                                                                    human dual specificity polypeptides and nucleic disease and treatment of e.g. liver disorders.
                                                                                                                                                                                                                                                                       2001-611635/70.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                   MILLENNIUM PHARM INC
                                                                                                                                                                                                                                              AAS14639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Fig 1; 143pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           302
                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0191858P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11. .131
/label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        242.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               158. .297
/label= Catalytic
/note= "Dual speci
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein;
                                                                                                                       English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tyrosine_specific_protein_phosphatase_active_site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rhodanese-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 specificity phosphatase catalytic domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           domain
                                                                                                                                                                                                   acids
                                                                                                                                                                                              diagnosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
```

```
RESULT 5
AAUT9156
ID AAUT
XX AAUT
AC AAUT
XX AUT
COLUMN
AC AAUT
XX Unuma
XX Huma
XX MITC
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Can
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Can
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Canc
KW Can
KW Can
KW Can
KW Can
KW Can
KW Can
KW Can
KW Can
KW Can
KW Can
KW Can
KW Can
KW Can
KW Can
KW Can
KW Can
KW Can
KW Can
KW Can
KW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cc antibody is useful for detecting the presence of the polypeptide, and the cnucleic acid fragments are useful for detecting the presence of the culcic acid, for diagnosing disease. Agents (e.g. the antibody and cartisense sequences) are useful for modulating the activity or expression confine polypeptide/nucleic acid, useful for the treatment of e.g. the polypeptide/nucleic acid, useful for the treatment of e.g. the motopoletic disorders, autoimmune disorders (e.g. diabetes mellitus, cr heumatoid arthritis, multiple sclerosis, Crohn's disease and many others consisted in the specification) liver disorders erythroid associated confidered in the specification) liver disorders erythroid associated confidered in the specification liver disorders erythroid associated confidered in the specification of useful are useful are proliferative or confidered in the specific anaemia) cellular proliferation, survival, cc carcinomas, sarcomas, metastatic cancers. Agents modulating 21117 and confidered are useful for identifying modulating coll. The collypeptide and nucleic acids are useful for identifying modulating coll gents. The present sequence represents the dual specificity phosphatase concerns.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
                                                                                                                                                                                                                                                                                        Human; dual-specificity phosphatase-3; DSP-16; autoimmune disease; mitogen-activated protein kinase; MAP; Duchenne muscular dystrophy; cancer; graft-versus-host disease; allergy; metabolic disease; abnormal cell growth; abnormal cell proliferation; contact inhibition cell cycle abnormality; anchorage independent cell growth; apoptosis; intercellular adhesion; DSP-16 modulator; chromosome 12p.
                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human dual-specificity phosphatase-3 (DSP-16) protein.
                                                                                                                                            Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAU79156;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAU79156 standard; protein; 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ب
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LVHCLAGISRSATIATAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MAHEMIGTQIVTERLVALLESGTEKVLLIDSRÞFVEYNTSHILBAININCSKLMKRRLQQ 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MAHEMIGTQIVTERLVALLESGTEKVLLIDSRÞFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AA;
                                                                                                Location/Qualifiers
242. .251
/label= Active_site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99.2%;
                                                                                            Active_site_domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 1552; DB 4;
Pred. No. 7.4e-163;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                  inhibition;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
```

Ş 밁 Ś 밁 Ş 밁 Ś 밁 á 밁 S

WO200226997-A2

RESULT 6
AAU09946
ID AAUC
XX
AC AAU0
XX

AAU09946 standard; protein;

8

AAU09946

```
밁
                         δ
                                                                                            Ş
                                                           밁
                                                                                                                                  밁
                                                                                                                                                                Ş
                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                 . 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Simi
Matches 300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present invention relates to a new polypeptide, DSP-16, having a 665 amino acid sequence, given in the specification, or a variant having at least 50 % identical residues, which retains the ability to dephosphorylate an activated mitogen-activated protein (MAP) kinase. The invention can be used for identifying agents which modulate DSP-16 activity, for modulation of a proliferative response in a cell, survival of a cell, or differentiation of a cell. The cell displays contact inhibition of cell growth or anchorage independent growth and may display altered intercellular adhesion. The agent may modulate apoptosis, or the cell cycle. The identified modulators can be used to treat Duchenne muscular distributions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        muscular dystrophy, cancer, graft-versus-host disease, autoimmune diseases, allergies, metabolic diseases, abnormal cell growth, abnormal cell proliferation, and cell cycle abnormalities. The present amino aci sequence represents the human dual-specificity phosphatase-3 (DSP-16) protein of the invention. This sequence is encoded by the human DSP-16 gene located on chromosome 12p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 665 AA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New DSP-16 polypeptide, useful for identifying modulators of its activity, which can be used in the treatment of disorders such a Duchenne muscular dystrophy, or cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; Fig 2; 87pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2002-315802/35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25-SEP-2001; 2001WO-US030124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26-SEP-2000; 2000US-0235487P
 301
                                 301
                                                                  241
                                                                                                  241
                                                                                                                                      181
                                                                                                                                                                    181
                                                                                                                                                                                                      121
                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                          ب
                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                Ş
                                                                                           LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
ç
                                                                                                                                                                                                                  LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                              LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                               LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                        DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                   MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                          MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABK47596
                                                                                                                                                                                                                                                                 DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                 302
                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                       99.2%;
99.3%;
                                                                                                                                                                                                                                                                                                                                                                                                     Score 1552; DB 5;
Pred. No. 7.4e-163;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 665;
                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        abnormal
                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                 120
                                                                                              300
                                                                                                                                                                                                 180
                                                                                                                                                                                                                                 180
                                                              300
                                                                                                                                                               240
                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                                                     0
```

Protein sequence of human (dual specificity phosphatase) DUSP-10.

18-JUN-2002 (first entry)

÷

```
CC phosphatase (DUSPID) polypoptide, comprising a 665 residue amino acid comprovides a sequence encoded by a 3059 nucleotide sequence fully defined in the specification. The invention also comprovides a sequence encoded by a 3059 nucleotide sequence fully defined comprovides a sequence encoded by a 1059 nucleotide sequence fully defined comprovides a sequence encoded by a 1059 nucleotide sequence fully defined comprovides as equence having at least 95 % identity to the properties of treating cancer e.g. leukaemia, colon carcinoma, lung cancer, comprovides of busperlo. The invention is useful concer, neuronal degeneration syndromes, Alzheimer's disease, depression, composed in a cardiac myotrophies, asthma, immune disorders, confilmantory processes e.g. arthritis, bowel disease, type I diabetes, confilmantory processes e.g. arthritis, bowel diseases. The molecules of the invention are also useful as vaccines for inducing immunological composed in a mammal, in disease diagnosis and in assays for screening agonistic or antagonistic compounds. Other uses of the invention include confirmosome localisation studies, and as a valuable tool in tissue composed in the present sequence represents the dual specificity phosphatase, busperlo, protein of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 300; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; dual specificity phosphatase; DUSP-10; cancer; epilepsy; stroke; neuronal degeneration syndrome; Alzheimer's disease; depression; schizophrenia; asthma; immune disorder; inflammatory process; arthritis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present invention relates to a new isolated dual specificity phosphatase (DUSP10) polypeptide, comprising a 665 residue amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Novel dual specificity phosphatase polypeptides useful for treating cancers, epilepsy, stroke, neuronal degeneration syndromes, Alzheimer's disease, depression, schizophrenia, asthma and immune disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-PSDB; AAS15768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            06-APR-2001; 2001WO-EP003966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18-OCT-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200177340-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10-APR-2000; 2000EP-00107143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (MERE )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2002-010917/01.
   181
                                                            181
                                                                                                                                       121
                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2; Page 37-39; 43pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MERCK PATENT GMBH.
                                                                                                                                                                       LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                               DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPMLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                        DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                   MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                    LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₽
Ķ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           diabetes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 1552; DB 5;
Pred. No. 7.4e-163;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                    180
                                                                240
                                                                                                                                       180
                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                60
```

δ 밁 र्

ঠ 밁 δ 밁

New protein phosphatases, useful for diagnosing, treating or preventing immune system disorders (e.g. Crohn's disease), neurological disorders (e.g. Parkinson's disease), or cell proliferative disorders (e.g.

```
RESULT 7
AAU75789
ID AAU75789
ID AAU75789
ID AAU75789
ID AAU75789
ID AAU75789
ID OB-M
XX AAU7
XX AAU7
XX AUMA
ACQ
XX Huma
XX Call
XX Call
XX ACQ
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
XX Home
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Reg:
YT Re
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                   28-JUL-2000; 2000US-0221679P.
03-AUG-2000; 2000US-0223272P.
10-AUG-2000; 2000US-0223372P.
18-AUG-2000; 2000US-0226728P.
30-AUG-2000; 2000US-0229254P.
08-SEP-2000; 2000US-0231366P.
                                                                                                                                                         Tribouley Walia NK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  dementia;
cell proli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Key
Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; protein phosphatase 7; PP7; immune system disorder; AIDS; acquired immunodeficiency syndrome; thymic hypoplasta; anaemia; asthma; Crohn's disease; neurological disorder; epilepsy; Huntington's disease; dementia; Parkinson's disease; developmental disorder; Down's syndrome;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     08-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAU75789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAU75789 standard;
                                                                                         N-PSDB; ABK14474.
                                                                                                                                                                                                                                                                          (INCY-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            26-JUL-2001; 2001WO-US023716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          melanoma; myeloma sarcoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human protein phosphatase 7 (PP7)
                                                                                                               2002-188735/24.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    proliferative disorder; cancer; adenocarcinoma; leukaemia; lymphoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                        EΑ,
                                                                                                                                                                                                                                                                          INCYTE GENOMICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ģ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                       CM, Grif
Kearney
                                                                                                                                                                                                                           Elliott VS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      302
                                                                                                                                                                                 Gandhi AR,
I, Griffin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note= "Tyrosine specific site tyr phosphatase.prf"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             note= "Tyrosine phosphatase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "Dual
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /label= Catalytic_domain_DSPc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /label= Rhodanese_like_domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                . 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           . 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              . 297
                                                                                                                                                                                                                           Ramkumar J,
                                                                                                                                                                                 JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Tyrosine specific protein phosphatases"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "VH1-type dual specificity protein phosphatase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Dual specificity protein
                                                                                                                                                                                                                                                                          INC
                                                                                                                                                                                                        Patterson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               665
                                                                                                                                                                              Baughn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               specificity phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ጅ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein sequence.
                                                                                                                                                                              Yao MG, Bu
C, Lee EA,
MR, Yue H,
                                                                                                                                                                                 O.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein
                                                                                                                                                                                                    Burford N, Wan
A, Hafalia AJA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              phosphatase'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    phosphatases active
                                                                                                                                                                                 BA,
                                                                                                                                                                                                                           Wang YE;
                                                                                                                                                                                 Nguyen
                                                                                                                                                                                                        DAM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
```

```
RESULT 8
ABB97946
                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                ş
                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local S
Matches 300
                     22-DEC-2000; 2000JP-00389742.
                                           20-DEC-2001; 2001WO-JP011217
(KAZU-) KAZUSA DNA RES INST FOUND.
                                                                                                                                                       Human protein sequence #13.
                                                                                        WO200252005-A1
                                                                                                                                                                                06-SEP-2002
                                                                                                                                                                                                                           ABB97946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present invention relates to a new polypeptide, a naturally occurring amino acid sequence at least 95 % identical to it, a biologically active fragment of it or an immunogenic fragment of it. The polypeptides, treating or preventing disorders associated with aberrant expression of acquired immunodeficiency syndrome (AIDS), thymic hypoplasia, anaemia, asthma or Crohn's disease, neurological disorders e.g. epilepsy, asthma or Crohn's disease, neurological disorders e.g. epilepsy. Huntington's disease, dementia or Parkinson's disease, developmental cancers including adenocarcinoma, leukaemia, lymphoma, melanoma, myeloma phosphatase 7 (pp7) which is one of several human protein phosphatases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 1; Page 107-108; 117pp; English.
                                                                                                              sapiens
                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                   brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ш
                                                                                                                                                                                                                       standard; protein;
                                                                                                                                                                                                                                                                                                    QT 302
                                                                                                                                                                                                                                                                                                                                LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNENELGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                옄.
                                                                                                                                                                                                                                                                                                                 LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                             QQNGTGYVLNASNTCPRPDFTPESHFLRVPVNDSFCEKTLPWLDKSVDFTEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                          QQNGIGYYLNASYTCPKPDFIPESHFLRYPVNDSFCEXILPWLDXSYDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                        LAGGFAEFSRCFÞGLCEGKSTLVÞTCÍSQÞCLÞVANÍGÞTRÍLÞNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                      LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYIGCQRDVLNKELI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                 DKVLÍTELÍÓHSÁKHKVDÍÐCSQKVVVÝÞÐQSSQÐVASLSSÐCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DKYLITELIQHSAKHKYDIDCSQKYVYYDQSSQDVASLSSDCFLTYLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            665 AA;
                                                                                                                                                                                (first
                                                                                                                             tonsil; hippocampus; foetal brain; diagnosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                              entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99.2%;
99.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 1552;
Pred. No. 7
                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .4e-163;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
```

```
RESULT 9
AAU79929
                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                   맑
                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                     맑
                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local
              Key
Domain
                                                    Homo
                                                                           erythrocytosis;
                                                                            Human; dual specificity phosphatase 21117; erythroid-related disorder; haematopoietic-related disorder; leukaemia; autoimmune disease; anaemi
                                                                                                                                                   02-JUL-2002
                                                                                                                                                                                                AAU79929 standard; protein;
                                                                                                                                                                             AAU79929;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to DNA encoding polypeptides directly cloned from CDNA libraries originating in adult whole brain, human tonsil, human adult hippocampus and human foetal whole brain. Polypeptides and differential expression of the DNA sequences in the investigation of disease patients. They may also be used in the production of antibodies, oligonuclectide probes and DNA chips for disposis and identification of drugs for treatment of diseases with which the DNA sequences are associated. The sequences given in records ABB97934-ABB97964 represent human proteins of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 1(a); Page 112-116; 238pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Genes and their expression treatment and diagnosis of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (CELE-)
                                                   sapiens
                                                                                                                           dual
                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                        241 LVHCLAGISRSATIAIAYIMKRMDMSLDBAYRFVKEKRPTISPNENFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 DKYLITELIQHSAKHKYDIDCSQKYVYYDQSSQDVASL6SDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2002-500762/53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKKRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MAHEMIGTQIVTERLVALLESGTEKVILIDSRPFVEVNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ó
                                                                                                                                                                                                                                                                                   _영
                                                                                                                                                                                                                                                                임:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                        LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISDNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                         QQNGIGYYLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                           QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                         LAGGFÁBFSRCFPGLCEGKSTLVÞTCÍSQÞCLÞVÁNIGÞTRÍLÞNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                         LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                         DKVLITBLIQHSAKHKVDIDCSQKVVVYIDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABN83966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CELESTAR LEXICO-SCI LTD.
                                                                                                                   specificity phosphatase 21117 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    665 AA;
                                                                                                                                                                                                                                                                                          302
                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nagase T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
Location/Qualifiers
11. .131
/label= Rhodanese 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nakajima D,
                                                                                                                                                                                                  665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  products cloned from human cDNA libraries diseases associated with their expression.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.
                                                                    disorder; cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 1552; DB 5;
Pred. No. 7.4e-163;
1; Mismatches 1;
                                                                                                                                                                                                 A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 their expression.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
                                                                             anaemia;
                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               for
                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
```

Rhodanese_like_domain

```
Query Match
Best Local S
Matches 300
                                                                                     The present invention relates to new nucleic acids designated 38692 and 21117 encoding dual specificity phosphatase family members. The nucleic acid, polypeptide encoded by it, and antibody specific for the polypeptide may be used to diagnose and treat haematopoietic-related disorders such as leukaemias and autoimmune diseases, erythroid-related disorders such as anaemias and erythrocytosis, liver-related disorders, and cancers, particularly of the breast, colon, adipose, prostate and lung. The present amino acid sequence represents the human dual specificity phosphatase 21117 protein of the invention, as described above.
                                                                                                                                                                                                                                                               New nucleic acids, designated 38692 and 21117, encoding dual specificity phosphatases for treating cell proliferation and differentiation disorders including hematopoietic and erythroid-related disorders and
                                                                                                                                                                                                                                                                                                                     WPI; 2002-351088/38.
N-PSDB; ABK49402.
                                                                                                                                                                                                                                                                                                                                                            Meyers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Active-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Region
                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                          23-MAR-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US2002034807-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Region
                                                                                                                                                                                                                                                                                                                                                                                       (MEYE/) MEYERS
                                                                                                                                                                                                                            8
  300;
                                                                                                                                                                                                                                                                                                                                                             ß
             Similarity
                                                                                                                                                                                                                          Fig 1;
                                                     665
  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0191858P
                                                                                                                                                                                                                                                                                                                                                                                                                                          2001US-00816494
                                                    $
                                                                                                                                                                                                                                                                                                                                                                                      ×
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note=
617. .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "Du
214. .217
                                                                                                                                                                                                                          76pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           508. .511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note= "Casein kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             note= "Tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                . .615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         . 94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            . 254
             99.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     . 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             . 620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . 269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      . 254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 . 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Casein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Casein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Casein kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Casein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Casein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Casein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Casein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Casein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Casein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Dual specificity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Casein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "C-X5-R motif"
Score 1552; D
Pred. No. 7.4e
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            kinase II phosphorylation site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           kinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             apecific
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ï
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ΙI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Π
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     II phosphorylation
             .4e-163;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       phosphorylation site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  phosphatase
                            DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein phosphatase active
                          Length 665;
  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  catalytic domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bite"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gite"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gite"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           site"
 0;
 Gaps
 0
```

```
맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
The present invention provides the protein and coding sequences of 444 novel human proteins. These were isolated from expressed sequences tags (ESTS). They can be used to stimulate cell growth, to regulate haematopoiesis e.g. to treat aplastic anaemia, to help tissue regrowth e.g. in burn treatment, to regulate the immune system e.g. to treat multiple sclerosis, to regulate activin or inhibin e.g. to treat infertility, to regulate haemostasis or thrombolysis e.g. to treat and cancer, to screen for drugs, to treat inflammatory conditions e.g. rheumatoid arthritis, and to treat nervous system disorders e.g. parkinson's disease. The present sequence is a protein of the invention
                                                                                                                                                                                                         WPI; 2002-292408/33.
N-PSDB; ABN32477.
                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; antianaemic; vulnerary; antiinflammatory; immunomodu
antiinfertility; cerebroprotective; cytostatic; rheumatic;
neuroprotective; antiparkinsonian; protein therapy; EST;
expressed sequence tag.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel human
                                                                                                                                                                   An isolated polynucleotide for treating diseases associated with encoded polypeptide such as cancer and multiple sclerosis.
                                                                                                                                                                                                                                                Xue AJ,
                                                                                                                                                                                                                                                                                                              11-SEP-2000; 2000US-00659671
                                                                                                                                                                                                                                                                                                                                       10-SEP-2001; 2001WO-US026015
                                                                                                                                                                                                                                                                                                                                                                  21-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                           WO200222660-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABB97291;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABB97291
                                                                                                                                                                                                                                                                                      (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                           2; SEQ
                                                                                                                                                                                                                                             Liu C,
Yang Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first
                                                                                                                                            ID NO 559; 509pp;
                                                                                                                                                                                                                                               Zhou P,
Wehrman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ħ
                                                                                                                                                                                                                                             Asundi V,
T, Drmanac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           559.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₿
                                                                                                                                            English.
                                                                                                                                                                                                                                               Zhang
RT;
                                                                                                                                                                                                                                                            ŗ
                                                                                                                                                                                                                                                            Zhao
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     immunomodulator;
                                                                                                                                                                                                                                                            Š,
                                                                                                                                                                                                                                                             T)
                                                                                                                                                                                   ite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
```

```
RESULT 11
AAB20325
ID AAB20
                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SSX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Simi
Matches 300;
               Modified-site
                              Modified-site
                                                                                                                                                                                                                               Homo
                                               Modified-site
                                                                                 Modified-site
                                                                                                Modified-site
                                                                                                                 Modified-site
                                                                                                                                 Modified-site
                                                                                                                                                  Modified-site
                                                                                                                                                                   Modified-site
                                                                                                                                                                                   Modified-site
                                                                                                                                                                                                   Key
Modified-site
                                                                                                                                                                                                                                               Protein phosphatase and kinase protein; PPHKP-4; human; gastrointestinal disorder; immune system disorder; neurological disorder;
                                                                                                                                                                                                                                                                               Human protein
                                                                                                                                                                                                                                                                                                 29-MAY-2001
                                                                                                                                                                                                                                                                                                                                AAB20325 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                               proliferative
                                                                                                                                                                                                                             sapiens
                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININGSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                           Ŗ
                                                                                                                                                                                                                                                                                                                                                                                                       LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                           QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                  LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                         QUNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                    QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKBLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MAHEMIGTOIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININGSKLMKRRLOO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    665
                                                                                                                                                                                                                                                                                                                                                                                           302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99.2%;
ilarity 99.3%;
Conservative
                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                             phosphatase and kinase protein-4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ₿,
                             /note=
                                                                                                  /note=
72
                                                                                                                  /note=
49
                                                                                                                                                                   /note=
23
     /note=
                                                                                                                                                                                                     Location/Qualifiers
                      note=
                                                       'note≃
                                                                       note=
                                                                                      note= "O-phosphorylated"
                                                                                                                                                          /note=
                                                                                                                                           note=
                                                                                                                                                                                            note=
                                                                                                                                                                                                                                            disorder; cancer;
                                                                                                                                                                                                                                                                                                                               protein; 666
   "N-glycosylated"
                                                                    "0-phosphorylated"
                    "N-glycosylated"
                                    "O-phosphorylated"
                                                                                                       "N-glycosylated"
                                                                                                                       "N-glycosylated"
                                                                                                                                                                                        "O-phosphorylated
                                                                                                                                        "N-glycosylated"
                                                                                                                                                        "O-phosphorylated"
                                                                                                                                                                         "O-phosphorylated"
                                                     "VH1-type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 1552; DB 5;
Pred. No. 7.4e-163;
l; Mismatches 1;
                                                dual specificity phosphatase signature"
                                                                                                                                                                                                                                                                                                                                ξ
                                                                                                                                                                                                                                           diagnosis; therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60
Claim 1; Page 87-88; 103pp; English
                     Novel human protein phosphatase and kinase proteins for diagnosis, treatment and prevention of gastrointestinal, immune system, neuro and cell proliferative disorders.
                                                         WPI; 2001-244811/25.
N-PSDB; AAF30479.
                                                                                  Lu DAM;
                                                                                           Yue H,
                                                                                                                                          14-SEP-2000; 2000WO-US025515
                                                                                                            (INCY-)
                                                                                                                           15-SEP-1999;
                                                                                                                                                             22-MAR-2001.
                                                                                                                                                                             WO200120004-A2
                                                                                                                                                                                                       Modified-site
                                                                                                                                                                                                                                        Modified.
                                                                                                                                                                                                                      Modified-site
                                                                                                                                                                                                                                                         Modified-site
                                                                                                                                                                                                                                                                         Modified-site
                                                                                                                                                                                                                                                                                         Modified-site
                                                                                                                                                                                                                                                                                                           Modified-site
                                                                                                                                                                                                                                                                                                                                           Modified-site
                                                                                                                                                                                                                                                                                                                                                           Modified-site
                                                                                                                                                                                                                                                                                                                          Modified-site
                                                                                                                                                                                                                                                                                                                                                                                            Modified-site
                                                                                                                                                                                                                                                                                                                                                                            Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                              Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                               Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                              Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Active-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Modified-site
                                                                                         Tang
                                                                                                          INCYTE GENOMICS INC.
                                                                                         YT,
                                                                                                                          99US-0154141P
                                                                                                                                                                                                       /note=
643
                                                                                                                                                                                                                                        /note=
628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 214
/note= "O-phosphorylated"
220. .280
/note= "tyrosine specific protein phosphatase"
237. .278
237. .278
                                                                                                                                                                                                                                                                               /note=
                                                                                                                                                                                                                               note=
                                                                                                                                                                                                                                                                 note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note=
300
                                                                                         Bandman
                                                                                                                                                                                                                                                                                                 note=
                                                                                                                                                                                                                                                                                                                   note=
                                                                                                                                                                                                                                                                                                                                   /note=
                                                                                                                                                                                                                                                                                                                                                   /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note=
                                                                                                                                                                                                                                                                                                                                                                                    note=
                                                                                                                                                                                                                                                                                                                                                                                                     note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                       note=
                                                                                                                                                                                                                                                                                                                                                                                                                                      note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         note=
                                                                                                                                                                                            "O-phosphorylated"
                                                                                                                                                                                                            "N-glycosylated"
                                                                                                                                                                                                                             "O-phosphorylated"
                                                                                                                                                                                                                                              "O-phosphorylated"
                                                                                                                                                                                                                                                              "O-phosphorylated"
                                                                                                                                                                                                                                                                               "O-phosphorylated"
                                                                                                                                                                                                                                                                                                "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                "O-phosphorylated
                                                                                                                                                                                                                                                                                                                                "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                   "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                    "O-phosphorylated'
                                                                                                                                                                                                                                                                                                                                                 "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                 "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                  "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                     "O-phosphorylated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "O-phosphorylated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                    "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "O-phosphorylated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "O-phosphorylated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "O-phosphorylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "O-phosphorylated"
                                                                                         Ó
                                                                                         Hillman
                                                                                         JL,
                                                                                        Baughn
                                                                                        ₹,
                                                                                        Azimzai
                             neurological
                                                                                       Ķ;
```

```
RESULT 12
ADA54744
ADA54744
XX
ADA547
AC ADA54
XX
AC ADA54
XX
CYtog
CX
CYtog
KW Cytog
KW Gene
KW infla
XX
Homo
XX
DE Homo
XX
DE HOmo
XX
AT EL-W
XX
PP 21-W
XX
PR 24-J
XX
XX
XX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CC The present sequence is that of novel human protein phosphatase and CC kinase protein pHKP-4, as predicted from Incyte Clone ID No. 1234995CB1 (see AAF30479). Tissues that express PPHKP-4 (as a fraction of total CC tissues expressing PPHKP-4) include gastrointestinal (0.385), CC cardiovascular (0.154), nervous (0.154) and reproductive (0.154). CC Diseases or conditions associated with tissues expressing PPHKP-4 (as a CC fraction of total tissues expressing PPHKP-4) include cancer (0.692), CC inflammation or trauma (0.308) and cell proliferation (0.231). The CC encoded protein shows homology to mouse neuronal tyrosine threonine CC phosphatase 1. The invention provides human PPHKP-1 to -11 polypeptides (see AAB20322-32) and polynucleotides (see AAF30476-86). It also provides expression vectors, host cells, antibodies, agonists and antagonists, as CC expression vectors, host cells, antibodies, agonists and antagonists, as CC well as methods for diagnosing, treating or preventing disorders CC expression of PPHKP, including gastroincestinal CC disorders, immune system disorders, neurological disorders and cell CC proliferative disorders, including cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 300;
                     14-SEP-2001; 2001JP-00328381
24-JAN-2002; 2002US-0350435P
                                                                                                                                                                                      EP1293569-A2
                                                                                                                                                                                                                                                                                Cytostatic; Anti-inflammatory; Osteopathic; Neuroprotective; Nootropic; Gene Therapy; human; secretory protein; membrane proteins; cancer; inflammatory disease; osteoporosis; neurological disease.
                                                                                                                                                                                                                                                                                                                                                                          Human protein,
                                                                                                                                                                                                                                                                                                                                                                                                                           20-NOV-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADA54744 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 666
                                                                                         21-MAR-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ģ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                           (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₽
                                                                                         2002EP-00006586
                                                                                                                                                                                                                                                                                                                                                                            SEQ ID 2312.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein;
                                                                                                                                                                                                                                                                                                                                                                                                                        entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 1552; DB 4;
Pred. No. 7.4e-163;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 666;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
```

S 밁 S 밁 5 밁 S 밁 S В Ś

```
RESULT 13
AAUT99161
ID AAUT99
XX AAUT9
AC AAUT9
XX AUT9
DT 02-JU
XX Human
XX Human
XX Human
XX Human
XX Gance
KW mitogan
KW cance
KW cance
XW cance
XW intex
XX
Homo
OS Synth
                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Isogai T, Si
Yamamoto J,
                                                       Human; dual-specificity phosphatase-3; DSP-16; autoimmune disease; mitogen-activated protein kinase; MAP; Duchane muscular dystrophy; cancer; graft-versus-host disease; allergy; metabolic disease; abnormal cell growth; abnormal cell proliferation; contact inhibiticell cycle abnormality; anchorage independent cell growth; apoptosiintercellular adhesion; DSP-16 modulator; mutant; mutein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ramamoto J, Isono Y,
Seki N, Yoshikawa T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 665 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present invention relates to novel human secretory or membrane proteins (ADA54072-ADA55710) and their coding sequences (ADA52433-ADA54071). The coding sequences are useful in the gene therapy of diseases caused by abnormalities of the proteins, e.g. cancer, inflammatory diseases, osteoporosis or neurological disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New polynucleotides encoding full-length polypeptides, e.g. secretory and/or membrane proteins, useful for developing medicines for diseases which the gene is involved, or as target molecules for gene therapy.
                                                                                                                                                                 Human dual-specificity phosphatase-3 (DSP-16) mutant protein
                                                                                                                                                                                               02-JUL-2002
                                                                                                                                                                                                                             AAU79161;
                                                                                                                                                                                                                                                          AAU79161 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 14; SEQ ID NO 2312; 205pp; English.
               Synthetic
                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (HELI-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2003-395539/38.
DB; ADA53105.
                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          299;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HELIX RES INST.
RES ASSOC BIOTECHNOLOGY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                    Ŋ.
                                                                                                                                                                                                                                                                                                                                                                 ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTLILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                            QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sugiyama T,
                                                                                                                                                                                                                                                                                                                                                                  302
                                                                                                                                                                                                                                                                                                                                    302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                               (first
                                                                                                                                                                                                                                                          protein;
                                                                                                                                                                                               entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        98.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Otsuki T, Wakamatsu A, Sato H, I
Hio Y, Otsuka K, Nagai K, Irie R,
Otsuka M, Nagahari K, Masuho Y;
                                                                                                                                                                                                                                                           665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 1545; DB 6;
Pred. No. 4.4e-162;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                           A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                       growth; apoptosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ishii
                                                                                       inhibition;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          °.
                                                                                                                                                                   #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tamechika
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
```

```
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         dephosphorylate an activated mitogen-activated protein (MAP) kinase. The invention can be used for identifying agents which modulate DSP-16 activity, for modulation of a proliferative response in a cell, survival of a cell, or differentiation of a cell. The cell displays contact inhibition of cell growth or anchorage independent growth and may display altered intercellular adhesion. The agent may modulate apoptosis, or the cell cycle. The identified modulators can be used to treat Duchenne muscular dystrophy, cancer, graft-versus-host disease, autoimmune diseases, altergies, metabolic diseases, abnormal cell growth, abnormal cell proliferation, and cell cycle abnormalities. The present amino acid sequence represents the human dual-specificity phosphatase-3 (DSP-16) mutant protein #1. Note: This sequence is not shown in the specification but is derived from the wild-type human DSP-16 (AAU79156) protein given
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present invention relates to a new polypeptide, DSP-16, having amino acid sequence, given in the specification, or a variant having least 50 % identical residues, which retains the ability to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 46; Page; 87pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New DSP-16 polypeptide, useful for identifying modulators of its activity, which can be used in the treatment of disorders such a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                04-APR-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2002-315802/35.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-SEP-2000; 2000US-0235487P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25-SEP-2001; 2001WO-US030124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200226997-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (CEPT-)
301
                                                 301
                                                                                                                                                                                                                                                                                                                  121
                                                                                                     241
                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     299;
                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                μ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          665
                                                                                                                                              LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN 300
                                                                                                                                                                                                                                      QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                   LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                      DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MAHEMIGTQI VTERLVALLESGTEKVLLI DSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      muscular dystrophy, or cancer.
Ŋ.
                                                                                                                                                                                                                                                                                                                                                                                                                        DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                 QT 302
                                                                                                                                                                                                       QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNASFCEKILPWLDKS
                                                                                                                                                                                                                                                                                                                LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
  302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of the specification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                     /note= "Wild-type Asp substituted by Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           98.7%;
99.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 1544; DB 5;
Pred. No. 5.7e-162;
1; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                             VDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        aving a
having
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       as
                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                                                                                        300
                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
```

밁

& 유

S

S

8 8 8 8

```
RESULT 14
ABR52352
XX ABR52
XX ABR52
XX ABR52
XX ABR52
XX ABR52
XX ABR52
XX IP-JU
XX IP-JU
XX Antig
KW Antig
KW Antig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW ANTig
KW
밁
                                           Ś
                                                                                                       밁
                                                                                                                                                        S
                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Jackson
Siemers
Krystek
                                                                                                                                                                                                                                                                                                                                                                                 antiarthritic, antipsoriatic, cardiant, and cytostatic activity. The polymucleotide may have a use in gene therapy. A polymucleotide or polypeptide of the invention is useful for preventing, treating or ameliorating a medical condition, e.g. a proliferative disorder. They are also useful for treating e.g. liver disease, renal failure, immunological disorders including arthritis and psoriasis, cardiovascular disorders such as congenital heart defects and congestive heart failure, and cancer. A method of the invention is useful for diagnosing a pathological condition or susceptibility to a condition in a subject. The present sequence is used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20-DEC-2000; 2000US-0256868P.
30-MAR-2001; 2001US-0280186F.
01-MAY-2001; 2001US-0287735P.
05-JUN-2001; 2001US-0295848P.
25-JUN-2001; 2001US-0300465P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  antiproliferative; hepatotropic; nephrotropic; antiarthritic; antiproliferative; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart defect; congestive heart failure; cancer; human; mouse; yeast; rat; fruitfly.
                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   polynucleotide having a nucleotide sequence selected from 40 polynucleotides fully defined in the specification. The polynucleotide the invention has antiproliferative, hepatotropic, nephrotropic, antiarthritic, antipsoriatic, cardiant, and cytostatic activity. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel polynucleotides encoding the prevention or treatment of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 25-JUL-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABR52352;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABR52352 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to a novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20-DEC-2001; 2001WO-US050459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Protein relating to the invention SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (BRIM )
                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2002-599721/64.
                                                                                                                                                                                                                     299;
  61
                                                   61
                                                                                                                                                                 \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       s, DG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BRISTOL-MYERS
                                           DKVLTTELIQHSAKHKVDIDCSQKVVVYVDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fig 5; 801pp; English.
                                                                                                                                                              MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                   665
DKYLITELIQHSAKHKYDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                          MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININGSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bol D, Schieven G,
                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                   AΑ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           entry)
                                                                                                                                                                                                                                               98.7%;
99.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nelson T, Mintier G, Ramanathan hieven G, Finger J, Todderud CG, Suchard S, Banas D;
                                                                                                                                                                                                                     ٠.
                                                                                                                                                                                                                                               Score 1544; DB 5;
Pred. No. 5.7e-162;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     human phosphatase polypeptides useful e.g. proliferative and cardiovascular
                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      isolated nucleic acid comprising
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         42
                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The polynucleotide
                                                                                                                                                                                                                                                                                  665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C, Lee L;
Bassolino
                                                                                                                                                                                                                        0
                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ū
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           in
        120
                                                            120
                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of.
                                                                                                                                                                                                                           0
```

```
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   antiinflammatory; antirheumatic; antiarthritic; immunosuppressive; antiinflammatory; antirheumatic; antiarthritic; immunosuppressive; antiinflammatory; antirheumatic; antiarthritic; immunosuppressive; anti-larvous system; virucide; anti-larvi; fungicide; antimutagen; cardiovascular; antianaemic; antemia; antemia; antiaggregant; haemostatic; vulnerary; antiulcer; osteopathic; eczema; dermatological; antiallergic; antiasthmatic; antidabetic; cytostatic; neuroprotective; antidepressant; nootropic; antidabetic; cytostatic; neuroprotective; antidepressant; nootropic; antiparkinsonian; inflammation; immunostimulant; gene therapy; antisense therapy; vaccine; inflammation; antianaphylactic; rheumatoid arthritis; septic shock; pancreatitis; cardiac dysfunction; neuropathology; cardiac anaphylaxis; autoimmunity; genetic disease; haematopoietic disorder; platelet disorder; asthma; thrombocytopaenia; osteoporosis; severe combined immunodeficiency; allergic rhinitis; diabetes; multiple sclerosis; depression; height disease; parkinson's disease; neurodegenerative disorder; neurological dispression;
AAH99166 to AAH99904 encode the human proteins given in AAM25225 to AAM25963. The proteins can have activities based on the tissues and cells they are expressed in, such as: antiinflammatory; antirheumatic; antiarthritic; immunosuppressive; antibacterial; endocrine; cardiant; central nervous system; virucide; anti-HIV; fungicide; antimutagen;
                                                                                                                                                                                                                                                                                                                                 23-DEC-1999; 99US-00471275.
21-JAN-2000; 2000US-00488725.
25-APR-2000; 2000US-00552317
                                                                                                                                                                                                    N-PSDB; AAH99685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAM25744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAM25744 standard;
                                                                                                                                          Isolated human polynucleotides encoding polypeptides, useful for the treatment and diagnosis of e.g. cancer, ulcers and HIV infection.
                                                                                                                                                                                                                                                                                              (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                          22-DEC-2000; 2000WO-US035017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            neurological
                                                                                                                                                                                                                                                           Ľ,
                                                                                                                                                                                                                       2001-457603/49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                         20; Page 260; 1217pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cancer; ulcer; HIV infection; human immunodeficiency virus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ģ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                         Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     isrsatiaiayimkrmdmsideayrfykekrptispnfnflgollayekkikn
                                                                                                                                                                                                                                                           Drmanac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          占
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NO:1259.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
```

```
Ş
밁
                                             ঠ
                                                                                                             밁
                                                                                                                                                              ð
                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CC cardiovascular; antianaemic; antiaggregant; haemostatic; vulnerary; CC antiulcer; osteopathic; dermatological; antiallergic; antiasthmatic; CC antidiabetic; cytostatic; neuroprotective; antidepressant; nootropic; CC antidiabetic; cytostatic; neuroprotective; antidepressant; nootropic; CC antidiabetic; cytostatic; neuroprotective; antidepressant; nootropic; CC antidiabetic; and immunostimulant. The proteins and polynucleotides concerned therapy and vaccine concerned to the protein and immunostimulant. The proteins and polynucleotides are useful for screening for concerned to the protein and for the treatment and diagnosis concerned to the treatment and diagnosis concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. inflammation, concerned to the protein e.g. includes the protein e.g. inflammation, concerned to the protein e.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 99.0
Matches 299; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 672 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             neurological disorders
308
                                                                                                                                                                                                                                 188
                                                                                                                                                                                                                                                                                                                                                 128
                                                   301
                                                                                                             248
                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ب
                                                                                                                                                                                                                                                                                                                                                                                  LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DKYLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
ဌ:
                                                   <u>Q</u>
                                                                                                                LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                       LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                            QQNGIGYVLNASYTCÞKÞDFIÞESHFLRVÞVNDSFCEKILÞWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                    LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MAHEMIGTQIVTERGVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                 QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                   302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 98.7%;
99.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 1544; DB 4;
Pred. No. 5.8e-162;
Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               672;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                307
                                                                                                                                                                       300
                                                                                                                                                                                                                                 247
                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                    187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     67
```

Search completed: June 21, 2004, 13:20:33 Job time: 33.7291 secs

This Page Blank (uspto)

```
Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                Database
                                                                                                                                                                                       BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               June 21, 2004, 13:19:48 ; Search time 25.9214 Seconds (without alignments) 3289.124 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1163542 seqs, 282313646 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MAHEMIGTQIVTERLVALLE......PNFNFLGQLLDYEKKIKNQT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-029-345A-109_COPY_1_302
1564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
/cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US09A_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US09B_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US09E_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US09C_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10C_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10C_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10C_PUBCOMB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10_NEW_PUB.pep:*
/cgn2_6/ptodata/1/pubpaa/US10_NEW_PUB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1163542
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Query Match Length	DB	ID	Description
1	1552	99.2	662	12	US-10-072-012-258	Sequence 258, App
N	1552	99.2	665	9	US-09-816-494-2	Sequence 2, Appli
ω	1552	99.2	665	9	US-09-964-277-2	Sequence 2, Appli
4	1552	99.2	665	12	US-10-072-012-680	Sequence 680, App
ហ	1552	99.2	665	12	US-10-168-506-14	
o	1552	99.2	665	12	US-10-343-357-7	7, 7
7	1552	99.2	665	15	US-10-377-072-26	Sequence 26, Appl
8	1552	99.2	665	16	US-10-257-026-2	Sequence 2, Appli
9	1552	99.2	665	16	US-10-648-593-240	Sequence 240, App
10	1552	99.2	665	16	US-10-648-593-247	
11	1552	99.2	690	12	US-10-072-012-679	Sequence 679, App
12	1552	99.2	690	12	US-10-072-012-703	703,
13	1552	99.2	690	12	US-10-425-114-54204	54204
14	1545	98.8	665	12	US-10-072-012-681	Sequence 681, App
15	1545	98.8	665	15	US-10-094-749-2312	
			•			

45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	Τo
425	425	425	425	426	426	462.5	469	469	. 469	469	619.	619	620	631.5	646	654.5	654.5	654.5	654.5	654.5	654.5	807	837	985	988	1504.5	1514	1517	FECT
	•			27.2	•				30.0	•			•	40.4		41.8	41.8	41.8	41.8	41.8		51.6		•					
394	394	394	394	394	394	381	482	482	482	444	155	155	501	461	517	170	170	170	170	170	169	155	616	663	625	680	677	660	
ø	v	9	9	14	12	14	16	14	12	9	9	9	12	12	9	14	14	12	9	9	14	9	12	12	12	12	12	12	
US-09-902-941-827	US-09-902-941-805	US-09-736-457-827	US-09-736-457-805	US-10-059-585-46	US-10-060-065-25	US-10-184-832-2	US-10-648-593-164	US-10-346-356-2	US-10-058-270A-130	US-09-964-899-47	US-09-955-732-6	US-09-964-277-6	US-10-072-012-702	US-10-072-012-701	US-09-964-277-21	US-10-405-808-16	US-10-314-058-14	US-10-655-073-16	US-09-847-519A-11	US-09-775-925-26	US-10-346-356-15	US-09-964-277-7	US-10-072-012-266	US-10-072-012-700	US-10-072-012-699	-012-2	US-10-072-012-683	US-10-072-012-682	
827,	805,	•	•	-	25	Sequence 2, Appli	Sequence 164, App	Ņ	Sequence 130, App	47	Sequence 6, Appli	Sequence 6, Appli	Sequence 702, App	Sequence 701, App	21,	16,	14	e 16,	Sequence 11, Appl	26, P	6 1	Sequence 7, Appli	266,	700,	Sequence 699, App		Sequence 683, App	•	

ALIGNMENTS

O H W D D D D D D D D D D D D D D D D D D
US-10- US-10- US-10- GEQU GEQU APP APP APP APP APP APP APP APP APP AP
SULT 1 Sequence 2 Sequence 2 Sequence 2 Sequence 2 Sequence 2 Sequence 2 Sequence 2 Sequence 1 Sepulcant Applicant A
TOP TO THE PROPERTY OF THE PRO
ULT 1 10-072-012 10-07
RESULT 1 US-10-07-012-258 Sequence 258, A Publication No. GENERAL INFORMA APPLICANT: Tch APPLICANT: Tch APPLICANT: Tch APPLICANT: Tch APPLICANT: APPLICANT: APPLICANT: APPLICANT: APPLICANT: APPLICANT: Go APPLICANT: Go APPLICANT: Go APPLICANT: Go APPLICANT: Go APPLICANT: HO APPLICANT: HO APPLIC
SULT 1 -10-072-012-258 Sequence 258, Applic Sequence 258, Applic Sequence 258, Applic Sequence 258, Applic Sequence 258, Applic Sequence 258, Applic Sequence 258, Applic APPLICANT: There are applic APPLICANT: Shimket APPLICANT: Haderso APPLICANT: Gangoli APPLICANT: Rastell APPLICANT: Rastell APPLICANT: Gerlach APPLICANT: Gerlach APPLICANT: Gerlach APPLICANT: Gousev, APPLICANT: Gousev, APPLICANT: Gousev, APPLICANT: Gousev, APPLICANT: Gousev, APPLICANT: Gouse, APPLICANT: Hurth APPLICANT: Gouse, APPLICANT: Hurth APPLICANT: Hurth APPLICANT: Alsobro APPLICANT: Rieger, APPLICANT: Rieger, APPLICANT: Rieger, APPLICANT: Rieger, APPLICANT: Rieger, APPLICANT: Rieger, APPLICANT: Rieger, APPLICANT: APPLICATION CURRENT APPLICATION CURRENT FILING DATE: PRIOR APPLICATION PRIOR APPLICATION PRIOR APPLICATION PRIOR APPLICATION PRIOR APPLICATION PRIOR APPLICATION PRIOR APPLICATION PRIOR APPLICATION PRIOR FILING DATE:
Applic Applic Objective Applic Chernev Spytek, Serhuse Pattura Shimket Li, Li Gangoll Gangoll Padigar Raterla Miller, Gerlaev Colman, Gerlach Furtak Grosse, Alsobro Alsobro Alsobro Alsobro Alsobro Alsobro Alsobro Alsobro Alsobro Alsobro Alsobro Alsobro Alsobro Alsobro Alsobro Alsobro Alsobro
ULT 1 10-072-012-258 equence 258, Application US/10072012 ublication No. US20040033493A1 ENREAL INFORMATION: APPLICANT: TCherrev, Velizar APPLICANT: Spytek, Kimberly APPLICANT: Spytek, Kimberly APPLICANT: Spytek, Kimberly APPLICANT: Spinkets, Richard APPLICANT: Applicant: Ali, Li APPLICANT: Gangolli, Esha APPLICANT: Gangolli, Esha APPLICANT: Ratelli, Luca APPLICANT: Ratelli, Luca APPLICANT: Ratelli, Luca APPLICANT: Taupier Jr, Raymond J. APPLICANT: Taupier Jr, Raymond J. APPLICANT: Wolenc, Adam R. APPLICANT: Wolenc, Adam R. APPLICANT: Hurtak, Katarzyna APPLICANT: Alsobrook II, John P. APPLICANT: Rieger, Danise M. APPLICANT: Rieger, M. APPLICANT: Rieger, M. APPLICANT: Rieger, M. APPLICANT: Rieger, M. APPLICANT: Rieger, M. APPLICANT: Rieger, M. APPLICANT: Rieger, M. APPLICANT: Rieger, M. APPLICANT: Rieger, M. APPLICANT
ication US/1 20040033493A v. Velizar k, Kimberly sen, Bryan rajan, Meera ets, Richard ili, Esha aru, Muralid son, David W lli, Luca r, Charles E ch, Valeries er Jr, Raymo vladimir y Nadamir k, Katarayma k, Katara
Velizar Kimberly Bryan an, Meera Kimberly Bryan an, Meera Kimberly Richard Librard Charles E. Valerine Tradimir Y. Steven D. Adam R. Katarznam Milliam M. K II, John Denise M. Catherine Proteins a Proteins a NUMBER: 00/2 001-01-31 MBER: 60/2
on US/10072)033493A1 Pelizar mberly Meera Richard Esha Muralidhara David W. Luca Luca Alerie , Raymond J. dimir Y. lareven D. lam R. II, John P. mise M. II, John P. mise M. II, John P. latherine E. oteins and 258 2002-01-31 ER: 60/265, 11-01-31
10072012 A1 d d d d d w W E E E E An W O D D D D D D D D D D D D D D D D D D
720 7720 E. E. Ta
11 4 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
2 1 e i
ָאָ ה <u>ַ</u>
A C
Acids
Encoding
ă.
ng
Same
m e

```
GENERAL INFORMATION:

APPLICANT: Meyers, Rachel A.

FITLE OF INVENTION: 38692 AND 21117, NOVEL DU

FILE OF INVENTION: HOSPHATASE MOLECULES AN

FILE REFERENCE: 10448-030002

CURRENT APPLICATION NUMBER: US/09/816,494

CURRENT FILING DATE: 2001-03-23

PRIOR APPLICATION NUMBER: US 60/191,858

PRIOR APPLICATION NUMBER: US 60/191,858

PRIOR PILING DATE: 2000-03-24

NUMBER OF SEQ ID NOS: 10

SOFTWARE: FASTSEQ for Windows Version 4.0

SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                  RESULT 2
US-09-816-494-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-072-012-258
                                                                                                                                                                                                                                                                                                       Sequence 2, Application US/09816494 Patent No. US20020034807A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Remaining Prior Application
NUMBER OF SEQ ID NOS: 1391
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 258
LENGTH: 662
ORGANISM: Homo sapiens
·09-816-494-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
                                        LENGTH: 665
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION NUMBER: 60/266,767
PRIOR FILING DATE: 2001-02-05
PRIOR APPLICATION NUMBER: 60/267,057
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR FILING DATE: 2001-02-07
PRIOR FILING DATE: 2001-02-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION NUMBER: 60/267,459 PRIOR FILING DATE: 2001-02-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: 2001-01-31
APPLICATION NUMBER: 60/265,395
FILING DATE: 2001-01-31
APPLICATION NUMBER: 60/266,406
FILING DATE: 2001-02-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: 60/265,412
                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRÞFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                    QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNENFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                            ဌ=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LAGGFAEFSRCFPGLCEGKSTLVPTCISOPCLPVANIGPTRILPNLYLGCORDVLNKELM 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DKVLITELIQHSAKHKVDIDCSQKVVVYIDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DKVLITELIQHSAKHKVDIDCSQKVVVYZDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                          302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          data removed - See File Wrapper or PALM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 1552; DB 12;
Pred. No. 3.4e-147;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                           DUAL SPECIFICITY AND USES THEREFOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 662;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
```

```
; Sequence 2, Application US/09964277
; Patent No. US20020137170A1
; GENERAL INFORMATION:
; APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
TITLE OF INVENTION: DSP-16 DUAL-SPECIFICITY PHO
FILE REFERENCE: 200125.434
; CURRENT APPLICATION NUMBER: US/09/964,277
; CURRENT FILING DATE: 2001-09-25
; NUMBER OF SEQ ID NOS: 22
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 2
; SEG ID NO 2
                               밁
                                                   Ş
                                                                                        밁
                                                                                                                    Ş
                                                                                                                                                       밁
                                                                                                                                                                                δ
                                                                                                                                                                                                                  뮍
                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                 문
                                                                                                                                                                                                                                                                                                           ş
                                                                                                                                                                                                                                                                                                                                                                                                           ; TYPE: PRT; ORGANISM: Homo sapiens US-09-964-277-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-964-277-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                           Query Match 99.:
Best Local Similarity 99.:
Matches 300; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity 99.3 Matches 300; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 665
 301
                                                            241
                                                                                            181
                                                                                                                         181
                                                                                                                                                         121
                                                                                                                                                                    121 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
Ö
                            LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                               LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                         QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                    LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                 DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL 120
                                                                                                                                                                                                                                                                            MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ 60
                                                                                                                                                                                                               DKYLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LAGGFABFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ŋ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            302
                                                                                                                                                                                                                                                                                                                                                           99.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99.2%;
                                                                                                                                                                                                                                                                                                                                         Score 1552; DB 9;
Pred. No. 3.4e-147;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 1552; DB 9;
Pred. No. 3.4e-147;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                           0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ٥,
                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                    240
                                                                                                                                                    180
                                                        300
                                                                                                                                                                                                                                                                              60
                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
```

밁

301

302

ဌ=

```
US-10-072-012-680
             문
                                  ð
                                                                                                                 ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-072-012-680
                                                                                                                                                                   Remaining Prior Application data removed - See File Wrapper or PALM NUMBER OF SEQ ID NOS: 1391
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 680, Application No. US20 GENERAL INFORMATION
                                                               Matches
                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION NUMBER: 60/265,412
PRIOR FILING DATE: 2001-01-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT FILING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: 60/265,102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/10/072,012
CURRENT FILING DATE: 2002-01-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Burgess, Catherine E.
TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same
FILE REFERENCE: 21402-258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Tchernev, APPLICANT: Spytek,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PPLICANT:
                                                                                                                                                         LENGTH: 665
                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: 60/265,517
FILING DATE: 2001-01-31
                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 2001-01-30
APPLICATION NUMBER: 60/265,514
FILING DATE: 2001-01-31
                                                                                                                                                                                                                        APPLICATION NUMBER: 60/266,975
FILING DATE: 2001-02-07
APPLICATION NUMBER: 60/267,459
FILING DATE: 2001-02-08
                                                                                                                                                                                                                                                                             FILING DATE: 2001-02-05
APPLICATION NUMBER: 60/267,057
FILING DATE: 2001-02-07
                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: 60/266,406
FILING DATE: 2001-02-02
APPLICATION NUMBER: 60/266,767
                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: 60/265,395
                                                                                                                                                                                                                                                                                                                                                             FILING DATE:
                                                              300;
           1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ 60
                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Purtak, Katarzyna
Grosse, William M.
Alsobrook II, John P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Colman, Steven D. Wolenc, Adam R. Pena, Carol E. A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lepley, Denise M.
Rieger, Daniel K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gusev, Vladimir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Taupier Jr, Raymond J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gerlach,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Anderson, David W.
Rastelli, Luca
Miller, Charles E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Spytek, Kimberly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Padigaru,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Patturajan,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Zerhusen, Bryan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Application US/10072012 o. US20040033493A1
                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                            2001-01-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Velizar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Catherine E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Valerie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Esha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Muralidhara
                                                                         99.2%;
                                                             Score 1552; DB 12;
Pred. No. 3.4e-147;
1; Mismatches 1;
                                                                                       Length
                                                                                          665;
                                                               0
                                                               Gaps
                                                               0
                                     밁
                                                             ફ
                                                                                          당
                                                                                                                á
                                                                                                                                             밁
                                                                                                                                                                     S
                                                                                                                                                                                                밁
                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 665
                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
             301
                                     241
                                                                                          181
                                                                                                                   181
                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                               241
                                                                                                                                                                                                61
그음
```

```
APPLICANT: FLANAGAN, PETER
TITLE OF INVENTION: MAMMALIAN PROTEIN PHOSPHATASES
FILE REFERENCE: 038602/1351
CURRENT APPLICATION UNMBER: US/10/168,506
CURRENT FILING DATE: 2002-06-21
PRIOR APPLICATION NUMBER: PCT/US00/34736
PRIOR APPLICATION NUMBER: PCT/US00/34736
PRIOR FILING DATE: 2000-12-21
NUMBER OF SEQ ID NOS: 76
SOFTWARE: Patentin. Ver. 2.1
SEQ ID NO 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-168-506-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-168-506-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 14, Application US/10168506
Publication No. US20040053229A1
GENERAL INFORMATION:
APPLICANT: PLOWMAN, GREGORY D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches 300; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT ORGANISM: Homo sapiens
                                                                                                                                                                                                                       121 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                                                                                                                    61 DKYLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                             1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                               LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                  MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QQNGIGYVLNASYTCPKPDPIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DKVLITELIQHSAKHKVDIDCSQKVVVYXDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LAGGFARFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                     QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                            DKYLITELIQHSAKHKYDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                      QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                              LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MANNING, GERARD
SUDARSANAM, SUCHA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WHYTE, DAVID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MARTINEZ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HILL, RON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RICARDO

    Mismatches

                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 1552; DB 12;
Pred. No. 3.4e-147;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                 180
  300
                                             300
                                                                                           240
                                                                                                                                      240
                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
```

US-10-343-357-7

GENERAL INFORMATION:

Sequence 7, Application US/10343357 Publication No. US20040058341A1 밁

301

Ö

```
밁
                                                                                   Ś
                                                                                                                               뭐
                                                                                                                                                              Ś
                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; NAME/KEY: misc_feature
; OTHER INFORMATION: Incyte ID No. US20040058341A1 7480570CD1
US-10-343-357-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: NGUYEN, DAINIEL E., CHAWLA, Nar.
APPLICANT: KEARNEY, Liam
ITITLE OF INVENTION: PROTEIN PHOSPHATASES
FILE REFERENCE: PI-0173 PCT
CURRENT APPLICATION NUMBER: US/10/343,357
CURRENT FILING DATE: 2003-01-28
PRIOR APPLICATION NUMBER: PCT/US01/23716
PRIOR FILING DATE: 2001-07-26
PRIOR PPLICATION NUMBER: US 60/221,679
PRIOR APPLICATION NUMBER: US 60/223,272
PRIOR PILING DATE: 2000-07-28
PRIOR APPLICATION NUMBER: US 60/223,272
PRIOR PILING DATE: 2000-08-03
PRIOR PILING DATE: 2000-08-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: PERL Program
SEQ ID NO 7
LENGTH: 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: US 60/224,309
PRIOR FILING DATE: 2000-08-10
PRIOR APPLICATION NUMBER: US 60/226,728
PRIOR FILING DATE: 2000-08-18
PRIOR APPLICATION NUMBER: US 60/229,254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION NUMBER: US 60/231,366 PRIOR FILING DATE: 2000-09-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: INCYTE GENOMICS, INC.; TANG, Y. TOM APPLICANT: ELLIOTT, Vicki S.; RAMKUMAR, Jayalaxmi APPLICANT: YAO, Monique G.; BURFORD, Neil APPLICANT: WANG, Yumei E.; STEWART, Elizabeth A. APPLICANT: GANDHI, Ameena R.; ARVIZU, Chandra S. APPLICANT: GEE, Ernestine A.; HAFALIA, April J.A. APPLICANT: LU, Dyung Aina M.; TRIBOULEY, Catherine APPLICANT: GRIFFIN, Jennifer A.; BAUGHN, Mariah R. ADBLICANT: GRIFFIN, Jennifer A.; BAUGHN, Mariah R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
APPLICANT:
APPLICANT:
301 QT 302
                        241 LVHCLAGISKSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISENFNFLGQLLDYEKKIKN
                                                    241 LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN 300
                                                                                                                          181
                                                                                                                               181 QQNGIGYYLNASYTCDKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                  121 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                       61 DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                  13
                                                                                                                                                                                                                                                                                                                                                                            _
                                                                                                                                                                                                                                                                                                                                                                                   1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRDFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                         QQNGIĠYVĹNASNTĊPKPDFIPĖSHFĹRVPVNDSFCEKILPWĹDKSVDFIEKAKASNGĊV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                        LAGGFAEFSRCFPGLCEGKSTLVPTCISQFCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                    DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSENSVHL
                                                                                                                                                                                                                                                                                                                                                        MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININGSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Henry; WARREN, Bridget A.
EN, Danniel B.; CHAWLA, Narinder K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000-08-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    1;
                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 1552; DB 12;
Pred. No. 3.4e-147;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 665;
                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                          180
                          300
                                                                                                           240
                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                         0
```

```
Ş
                                                                                                             밁
                                                                                                                                              5
                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                           맑
                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; TYPE: PRT
; ORGANISM: Homo Sapiens
US-10-377-072-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILE REFERENCE: MPTG3-0-18-0MNIM
CURRENT APPLICATION NUMBER: US/10/377,072
CURRENT FILING DATE: 2003-02-27
PRIOR APPLICATION NUMBER: US 09/895,860
PRIOR FILING DATE: 2001-06-29
PRIOR PELICATION NUMBER: US 60/215,370
PRIOR FILING DATE: 2000-06-29
PRIOR APPLICATION NUMBER: US 69/723,806
PRIOR APPLICATION NUMBER: US 99/723,806
PRIOR APPLICATION NUMBER: US 60/187,455
PRIOR APPLICATION NUMBER: US 60/187,455
PRIOR PILING DATE: 2000-03-07
PRIOR PILING DATE: 2001-04-25
PRIOR APPLICATION NUMBER: US 60/199,801
PRIOR APPLICATION NUMBER: US 60/199,801
PRIOR APPLICATION NUMBER: US 60/199,801
PRIOR APPLICATION NUMBER: US 60/199,801
PRIOR APPLICATION NUMBER: US 60/199,801
PRIOR APPLICATION NUMBER: US 60/199,801
PRIOR APPLICATION NUMBER: US 60/861,801
                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-377-072-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Remaining Prior Application data removed - NUMBER OF SEQ ID NOS: 114
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: Millennium Pharmaceuticals Inc.
APPLICANT: Curtis, Rory A.J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION NUMBER: US 09/816,494
PRIOR FILING DATE: 2001-03-23
PRIOR APPLICATION NUMBER: US 09/815,419
PRIOR FILING DATE: 2001-03-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR FILING DATE: 2001-05-21
PRIOR APPLICATION NUMBER: US 60/205,508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 665
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Williamson, Mark J.
APPLICANT: Rudolph-Owen, Laura A.
APPLICANT: Chun, Miyoung
APPLICANT: Tsai, Fong-Ying
APPLICANT: Tsai, Fong-Ying
APPLICANT: Tsai, Fong-Ying
APPLICANT: 100 INVENTION: NOVEL 25869, 25934, 26335, 50365, 21117,
TITLE OF INVENTION: 38692, 46508, 16816, 16839, 49937, 49931 AND 49933 MOLECULES
TITLE OF INVENTION: AND USES THEREFOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                                                                      121 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                     300;
                                                                                                                                                                                                             61 DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                   h 99.2%;
Similarity 99.3%;
QQNGİĞYVLNASNTCPKPDFİPESHFLKVPVNDSFCEKİLPWLDKSVDFIEKAKASNGCV
                          QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV 240
                                                                                                                                                                                DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL 120
                                                                                                                                                                                                                                                                        MAHEMIGTQIVTERLVALLESGTEKVLLIDSRÞFVEYNTSHILEAININCSKLMKRRLÓQ 60
                                                                                                                                                                                                                                                                                                     MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                         LAGGFAEFSRCFÞGLCEGKSTLVÞTCÍSQÞCLÞVANÍGÞTRÍLÞNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Curtis, ku.,
Curtis, ku.,
Thomas (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        일=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Glücksmann, Maria A.
Meyers, Rachel E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Application US/10377072
No. US20040009501A1
                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000-05-19
                                                                                                                                                                                                                                                                                                                                                                             1:
                                                                                                                                                                                                                                                                                                                                                                                            Score 1552; DB 15;
Pred. No. 3.4e-147;
                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    See File Wrapper or PALM
                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                  Length 665;
                                                                                                                                                                                                                                                                                                                                                                    0,
                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                            180
```

Ş 밁

```
US-10-648-593-240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-257-026-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-257-026-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: Merck Patent GmbH
TITLE OF INVENTION: New dual specificity phosphatase
FILE REFERENCE: DUSPIOKDWS
CURRENT APPLICATION NUMBER: US/10/257,026
CURRENT FILING DATE: 2003-11-07
NUMBER OF SEQ ID NOS: 3
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                         Sequence 240, Application No. US200 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 99.2%;
Best Local Similarity 99.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 2, Application US/10257026 Publication No. US20040086859A1
                                         APPLICANT: Bristol-Hyers Squibb Company
APPLICANT: Bristol-Hyers Squibb Company
TITLE OF INVENTION: IDENTIFICATION OF GENES FOR PREDICTING ACTIVITY OF COMPOUNDS TH
TITLE OF INVENTION: PROTEIN TYROSINE KINASE PATHWAYS IN BREAST CELLS
TITLE OF INVENTION: PROTEIN TYROSINE KINASE PATHWAYS IN BREAST CELLS
TITLE REFERENCE: D0273 NP
CURRENT APPLICATION NUMBER: US/10/648,593
CURRENT PILING DATE: 2003-08-26
PRIOR APPLICATION NUMBER: 60/406,385
PRIOR APPLICATION NUMBER: 60/406,385
PRIOR FILING DATE: 2002-08-27
                 SOFTWARE: PatentIn version 3.2
                                     NUMBER OF SEQ ID NOS: 557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 665
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                             301 QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                         241 LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                             QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DKVLITELIQHSAKHKVDIDCSQKVVVYIDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININGSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                           Application US/10648593
b. US20040106132A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 1552; DB 16;
Pred. No. 3.4e-147;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION NUMBER: 60/406,385;
PRIOR FILING DATE: 2002-08-27;
NUMBER OF SEQ ID NOS: 557;
SOFTWARE: PatentIn version 3.2;
SEQ ID NO 247;
LENGTH: 665;
TYPE: PRT;
ORGANISM: Homo sapiens
US-10-648-593-247
                                 밁
                                                                       Ş
                                                                                                            밁
                                                                                                                                          S
                                                                                                                                                                                     밁
                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            븅
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뭉
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 10
US-10-648-593-247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-648-593-240
                                                                                                                                                                                                                                                                Query Match
Best Local S
Matches 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 247, Application US/10648593 Publication No. US20040106132A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Bristol-Myers Squibb Company
TITLE OF INVENTION: IDENTIFICATION OF GENES FOR PREDICTING ACTIVITY OF COMPOUNDS THAT
TITLE OF INVENTION: INTERACT WITH AND/OR MODULATE PROTEIN TYROSINE KINASES AND/OR
TITLE OF INVENTION: PROTEIN TYROSINE KINASE PATHWAYS IN BREAST CELLS
FILE REFERENCE: D0273 NP
CURRENT APPLICATION NUMBER: US/10/648,593
CURRENT FILING DATE: 2003-08-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                     121
                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLFVANIGPTRILFNLYLGCQRDVLNKELI 180
 181
                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                      61 DKYLITELIQHSAKHKYDIDCSQKVVVYJQSSQDVASLSSDCFUTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                     1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILBAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                  Similarity
                                                                                                              DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                         LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        <u>۾</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                     LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                  99.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99.2%;
99.3%;
                                                                                                                                                                                                                                                                Score 1552; DB 16;
Pred. No. 3.4e-147;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 1552;
Pred. No. 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .4e-147;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 16;
                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       665;
                                                                                                                                                                                                                                                                                                        665;
                                                                                                                                                                                                                                                                  <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0,
                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
   240
                                       180
                                                                                                                  120
                                                                                                                                                      120
                                                                                                                                                                                         60
                                                                                                                                                                                                                               6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0,
```

밁 S 밁 ð 밁 Ś 밁 S 문 ş

```
; SOFTWARE: PatentIn Ver. 2
; SEQ ID NO 679
; LENGTH: 690
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-072-012-679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-072-012-679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: 60/265,102
PRIOR FILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 679, Application US/10072012 Publication No. US20040033493A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                     Remaining Prior Application data removed - NUMBER OF SEQ ID NOS: 1391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/10/072,012
CURRENT FILING DATE: 2002-01-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILE REFERENCE: 21402-258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Burgess, Catherine E.
TITLE OF INVENTION: Proteins and Nucleic Acids Encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PPLICANT:
                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 60/265,395
FILING DATE: 2001-01-31
APPLICATION NUMBER: 60/266,406
                                                                                                                                                                         APPLICATION NUMBER: 60/266,975 FILING DATE: 2001-02-07
                                                                                                                                                                                                         APPLICATION NUMBER: 60/267,057
FILING DATE: 2001-02-07
                                                                                                                                                                                                                                          FILING DATE: 2001-02-02
APPLICATION NUMBER: 60/266,767
FILING DATE: 2001-02-05
                                                                                                                                         FILING DATE: 2001-02-08
                                                                                                                                                       APPLICATION NUMBER: 60/267,459
                                                                                                                                                                                                                                                                                                                                               FILING DATE: 2001-01-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tchernev, Velizar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Miller, Charles E.
Gerlach, Valerie
Taupier Jr, Raymond J.
Gusev, Vladimir Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Lepley, Denise M.
Rieger, Daniel K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Furtak, Katarzyna
Grosse, William M.
Alsobrook II, John P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gangolli, Esha
Padigaru, Muralidhara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Patturajan, Meera
Shimkets, Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Wolenc,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Anderson, David W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Spytek, Kimberly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Zerhusen, Bryan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          c, Adam R.
Carol E. A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Steven D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Luca
                                                                                                                    See File Wrapper or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
```

```
APPLICANT: BAISGES, Catherine E.
APPLICANT: BURGESS, Catherine E.
FIITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same
FILE REFERENCE: 21402-258
CURRENT APPLICATION NUMBER: US/10/072,012
CURRENT FILING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: 60/265,102
PRIOR PILING DATE: 2001-01-30
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR APPLICATION NUMBER: 60/265,512
PRIOR APPLICATION NUMBER: 60/265,512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 12
US-10-072-012-703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              멅
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: Tchernev,
APPLICANT: Spytek,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 703, Application US/10072012 Publication No. US20040033493A1
                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                 APPLICATION NUMBER: 60/265,395 FILING DATE: 2001-01-31
APPLICATION FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     326 QT 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301 QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         266 LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                    Taupier Jr, Raymond J
Gusev, Vladimir Y.
Colman, Steven D.
Wolenc, Adam R.
Pena, Carol B. A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MAHEMIGTQI VTERLVALLESGTEKVLLI DSRPFVEYNTSHI LEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                    Furtak, Katarzyna
Grosse, William M.
Alsobrook II, John P.
                                                                                                                                                                                                                                                                                                 Lepley, Denise M.
Rieger, Daniel K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gerlach,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rastelli, Luca
Miller, Charles E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Padigaru, Muralidhara
Anderson, David W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gangolli,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Shimkets,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Zerhusen, Bryan
Patturajan, Mee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Spytek, Kimberly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                NUMBER: 60/266,406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Velizar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Valerie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Esha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Meera
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 1552;
Pred. No. 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .6e-147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   690;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
```

0

```
GENERAL INFORMATION:
APPLICANT: Liu, Jingdong
APPLICANT: Zhou, Yihua
APPLICANT: Kovalic, David
APPLICANT: Screen, Steven
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 13
US-10-425-114-54204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; ORGANISM: Homo sapiens US-10-072-012-703
                                                            ; FEATURE:
; OTHER INFORMATION: Clone ID:
US-10-425-114-54204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION NUMBER: 60/266,767
PRIOR FILING DATE: 2001-02-05
PRIOR APPLICATION NUMBER: 60/267,057
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR FILING DATE: 2001-02-08
PRIOR FILING DATE: 2001-02-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Remaining Prior Application data removed -
NUMBER OF SEQ ID NOS: 1391
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 703
LENGTH: 690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 300; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 54204, Application US/10425114
Publication No. US20040034888A1
  Query Match
Best Local Similarity
                                                                                                                                                                             SEQ ID NO 54204
                                                                                                                                                                                        APPLICANT: Tabaska, Jack E
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21 (5331)B
CURRENT APPLICATION NUMBER: US/10/425,114
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 73128
                                                                                                                   LENGTH: 690
TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241 LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181 QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILENLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  86 DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       옄:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                         Kovalic, David K.
Screen, Steven E
Tabaska, Jack E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99.2%;
  99.2%;
                                                                           LIB4119-028-H6_FLI.pep
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 1552; DB 12;
Pred. No. 3.6e-147;
1; Mismatches 1;
Score 1552; DB 12;
Pred. No. 3.6e-147;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       See File Wrapper or PALM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       690;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
```

```
CURRENT APPLICATION NUMBER: US/10/072,012
CURRENT FILING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: 60/265,102
PRIOR FILING DATE: 2001-01-30
PRIOR PPLICATION NUMBER: 60/265,514
PRIOR PPLICATION NUMBER: 60/265,517
PRIOR PPLICATION NUMBER: 60/265,517
PRIOR PPLICATION NUMBER: 60/265,517
PRIOR PPLICATION NUMBER: 60/265,412
PRIOR PPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/266,406
PRIOR PILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/266,406
PRIOR PILING DATE: 2001-02-02
PRIOR APPLICATION NUMBER: 60/266,767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-072-012-681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 681, Application US/10072012 Publication No. US20040033493A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                  APPLICANT: Lepley, Denise M.
APPLICANT: Rieger, Daniel K.
APPLICANT: Burgess, Catherine B.
TITLE OF INVENTION: Proteins and Nucleic Acids
FILE REFERENCE: 21402-258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Tchernev, Velizar APPLICANT: Spytek, Kimberly
                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                326 QT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        266 LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            26 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DKVLITELIQHSAKHKVDIDCSQKVVVYYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                                                                                                                                                                                                                                     Gusev, Vladimir Y.
Colman, Steven D.
Wolenc, Adam R.
Pena, Carol E. A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Miller, Charles E.
Gerlach, Valerie
Taupier Jr, Raymond J.
                                                                                                                                                                                                                                                                                                                                                                              Furtak, Katarzyna
Grosse, William M.
Alsobrook II, John P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Anderson, David W.
Rastelli, Luca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Padigaru, Muralidhara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gangolli, Esha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Patturajan, Meera
Shimkets, Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Zerhusen, Bryan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                          Encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <u>بر</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                          Same
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
```

```
5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뭣
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-094-749-2312
                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-072-012-681
APPLICANT: TAMECHIKA, ICHIRO
APPLICANT: SEKI, WAOHIKO
APPLICANT: SEKI, WAOHIKO
APPLICANT: OTSUKA, MOTOYUKI
APPLICANT: OTSUKA, MOTOYUKI
APPLICANT: MASUHO, YASUHIKO
TITLE OF INVENTION: NOVEL FULL-LENGTH CDNA
FILE REFERENCE: 084335/0160
CURRENT APPLICATION NUMBER: US/10/094,749
CURRENT APPLICATION NUMBER: 05/350,435
PRIOR FILING DATE: 2002-01-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION NUMBER: 60/267,057
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR PILING DATE: 2001-02-07
PRIOR PILING DATE: 2001-02-07
PRIOR FILING DATE: 2001-02-08
Remaining Drior Application data removed - See File Wrapper or NUMBER OF SEQ ID NOS: 1391
SOFTWARE: Patentin Ver: 2.1
SEQ ID NO 681
                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 2312, Application US/10094749 Publication No. US20030219741A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                               APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 665
TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLFVANIGPTRILPNLYLGCQRDVLNKELI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tch 98.8%; al Similarity 99.0%; 299; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRÞFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILFWLDKSVDFIEKAKASNGCV 240
                                                                                                                                                                                                                                                                                                                                    SUGIYAMA, TOTAL SUGIYAMA, TETSUJI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTLILPNLYLGCQRDVLNKELM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININGSKLMKRRLQQ
                                                                                                                                                                                             OTSUKA, KAORU
NAGAI, KEIICHI
IRIE, RYOTARO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                                                                                                                             ISHII, SHIZUKO
YAMAMOTO, JUN-ICHI
                                                                                                                                                                                                                                                                                                          WAKAMATSU, AI
SATO, HIROYUKI
                                                                                                                                                                                                                                                ISONO, YUUKO
HIO, YURI
                                                                                                                                                                                                                                                                                                                                                                               TAKAO
                                                                                                                                                                                                                                                                                                                                                                 TOMOYASU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 1545; DB 12;
Pred. No. 1.7e-146;
1; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
```

```
; ORGANISM: Homo sapiens
US-10-094-749-2312
                      δ
                                                      뮍
                                                                               Ş
                                                                                                             밁
                                                                                                                                       S
                                                                                                                                                                     밁
                                                                                                                                                                                               Ś
                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                      뭉
                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION NUMBER: JP 2001-328381
PRIOR FILING DATE: 2001-09-14
NUMBER OF SEQ ID NOS: 3381
SOFTWARE: Patentin Ver: 2.1
SEQ ID NO 2312
LENGTH: 665
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                           Local Similarity
nes 299; Conserv
                                                                                                               181
                                                                                                                                          181
                                                                                                                                                                       121
 301
                           301
                                                       241
                                                                                    241
                                                                                                                                                                                      121 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI
                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                             61 DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                                                                                                                                                                                                                                                      1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                                                                                                                                                                                                                                                     MAHEMIGTOIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ
                                                                        LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN 300
                                                                                                                                    QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
                                                                                                                                                                     LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTLILPNLYLGCQRDVLNKBLM
                                                                                                                                                                                                                             DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL
                                                       LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN
                                                                                                             QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV
QT 302
                           Ę.
                           302
                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                           98.8%;
                                                                                                                                                                                                                                                                                                                                            ; Score 1545; DI
; Pred. No. 1.7e-
1; Mismatches
                                                                                                                                                                                                                                                                                                                                               ; DB 15;
1.7e-146;
hes 2;
                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                     240
                                                                                                                                                                           180
                                                                                                                                                                                                        180
                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                            60
```

0,

Search completed: June 21, Job time : 26.9214 secs 2004, 13:24:58

```
Reвult
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Scoring table:
  Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
  415
409.5
409
409
377.5
357
                                                                                   423.5
                                                                                                                                                                                                                                                                                                                                        Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          eq
eq
                                                                                             protein search, using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length: 0
length: 2000000000
  Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                            Issued_Patents_AA:*

1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*

2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*

3: /cgn2_6/ptodata/2/iaa/6A_COMB.pep:*

4: /cgn2_6/ptodata/2/iaa/6B_COMB.pep:*

5: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*

6: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BLOSUM62
Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             June 21, 2004, 13:20:38 ; Search time 10.3061 Seconds (without alignments) 1512.797 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MAHEMIGTQIVTERLVALLE......PNFNFLGQLLDYEKKIKNQT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-029-345A-109_COPY_1_302
1564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    389414 seqs, 51625971 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                      Length
  Gapext 0.5
                                                                                                                                                                                                                                                                                                                                       B
US-09-816-494-2
US-09-544-716-14
US-09-557-921-15
US-09-564-357-17
US-09-643-357-17
US-09-619-330-16
US-09-371-671B-11
US-08-590-379-6
US-09-702-705-827
US-09-712-705-827
US-09-713-457-807
US-09-713-457-807
US-09-614-124B-805
US-09-614-124B-805
US-09-614-124B-805
US-09-614-124B-805
US-09-614-124B-805
US-09-614-124B-807
US-09-614-124B-807
US-09-619-325-827
US-09-619-325-827
US-09-519-184-805
US-09-521-325-827
US-09-530-290-79-7
US-08-990-379-7
US-08-990-379-7
US-09-221-44BA-22
US-09-221-44BA-22
US-09-736-457-806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             æ
                                                                                                                                                                                                                                                                                                                                                                          SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                389414
        Sequence 2, Appli
Sequence 11, Appl
Sequence 17, Appl
Sequence 17, Appl
Sequence 2, Appli
Sequence 2, Appli
Sequence 31, Appl
Sequence 61, Appl
Sequence 23, Appl
Sequence 805, Appl
Sequence 807, App
Sequence 807, App
Sequence 827, App
Sequence 827, App
Sequence 827, App
Sequence 827, App
Sequence 827, App
Sequence 827, App
Sequence 827, App
Sequence 27, App
Sequence 27, App
Sequence 24, Appli
Sequence 24, Appli
Sequence 27, Appli
Sequence 27, Appli
Sequence 27, Appli
Sequence 27, Appli
Sequence 27, Appli
Sequence 27, Appli
Sequence 27, Appli
Sequence 27, Appli
Sequence 27, Appli
Sequence 27, Appli
Sequence 27, Appli
Sequence 2806, Appli
Sequence 806, Appli
Sequence 806, Appli
Sequence 806, Appli
                                                                                                                                                                                                                                                                                                                                      Description
                                              Ô
                                                                      참 청
                                                                                                                     H &
                                                                                                                                                                   H &
                                                                                                                                                                                                                 참 8
                                                                                                                                                                                                                                                             멅
                                                                                                                                                                                                                                                                                δ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 1
US-09-816-494-2
                                                                                                                                                                                                                                                                                                                                                                US-09-816-494-2
                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 300; Conser
```

. 4 . 53	44	43	42	41	40	39	38	37	36	35 5	34	<u>υ</u> 3	32	31	30	29	28
312	312	319	319	319	319	338.5	338.5	338.5	338.5	346.5	346.5	346.5	346.5	349.5	357	357	357
19.9	19.9	20.4	20.4	20.4	20.4	21.6	21.6	21.6	21.6	22.2	22.2	22.2	22.2	22.3	22.8	22.8	22.8
168	168	169	169	169	169	170	170	170	170	168	168	168	168	397	302	302	302
4.	4	4	4	4	4	4	4	4	4	4	4	4	4	N	4	4.	4.
US-09-557-921-16	US-09-544-716-15	US-09-619-380-18	US-09-564-357-19	US-09-557-921-17	US-09-544-716-16	US-09-619-380-14	US-09-564-357-15	US-09-557-921-12	US-09-544-716-12	US-09-619-380-15	US-09-564-357-16	US-09-557-921-13	US-09-544-716-13	US-08-990-379-8	US-09-589-184-806	US-09-671-325-806	US-09-614-124B-806
•	•	Sequence 18, Appl	•	•	•	-	Sequence 15, Appl	•	•	-	•	-	Sequence 13, Appl	Sequence 8, Appli	Sequence 806, App	Sequence 806, App	Sequence 806, App

ALIGNMENTS

Sequence 2, Application US/09816494

Patent NO. 6664089

GENERAL INFORMATION:
APPLICANT: Meyers, Rachel A.
TITLE OF INVENTION: 38692 AND 21117, NOVEL DUAL SPECIFICITY
TITLE OF INVENTION: 9HOSPHATASE MOLECULES AND USES THEREFOR
FILE REFERENCE: 10448-030002

CURRENT APPLICATION NUMBER: US/09/816,494

CURRENT APPLICATION NUMBER: US/09/816,494

CURRENT FILING DATE: 2001-03-23

PRIOR APPLICATION NUMBER: US 66/191,858

PRIOR FILING DATE: 2000-03-24

NUMBER OF SEQ ID NOS: 10

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 2

LENGTH: 665

TYPE: PRI
ORGANISM: Homo sapiens
US-09-816-494-2

Query Match
99.2%; Score 1552; DB 4; Length 665;
Best Local Similarity 99.3%; Pred. No. 3e-161;
Matches 300; Conservative 1; Mismatches 1; Indels 0;

Matches	300; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
য	1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ 60
ਰੱ	1 MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQ 60
¥	61 DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL 120
ਰੱ ਹ	61 DKVLITELIQHSAKHKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHL 120
ž.	121 LAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELI 180
ŏ	121 LAGGFAEFSRCFPGLCEGKSTLVFTCISQPCLFVANIGFTRILFNLYLGCQRDVLNKELM 180
¥	181 QQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV 240
ř	181 QQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCV 240
¥	241 LVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN 300
ř	241 LVHCLAGISRSATIAIAYIMKRMDMSLDEAYREVKEKRPTISPNENFLGQLLDYEKKIKN 300
¥	301 QT 302
ŏ	301 QT 302

```
GENERAL INFORMATION:

APPLICANT: Luche, Ralf M.

APPLICANT: Mei, Bo
TITLE OF INVENTION: DSP-10 DUAL-SPECIFICITY PHOSPHATASE
FILE REFERENCE: 200125.416
CURRENT APPLICATION UMBER: US/09/557,921
CURRENT FILING DATE: 2000-04-20
INUMBER OF SEQ ID NOS: 20
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 15
LENGTH: 170
RESULT 4
                                             밁
                                                                 Ş
                                                                                                 В
                                                                                                                            S
                                                                                                                                                         밁
                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                         ; TYPE: PRT; ORGANISM: Homo sapiens US-09-557-921-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 3
US-09-557-921-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-544-716-14
                                                                                                                                                                                                                               Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 15, App...
No. 6551810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-544-716-14
                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE:
SEQ ID NO 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 14, Application US/09544716 Patent No. 6492157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
TITLE OF INVENTION: DSP-9 DUAL-SPECIFICITY PHOSPHATASE
FILE REFERENCE: 200125.415
CURRENT APPLICATION NUMBER: US/09/544,716
CURRENT FILING DATE: 2000-04-10
NUMBER OF SEQ ID NOS: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                     121
                                                                                                                                                               134 GLCEGK-STLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELIQQRGIGYYLNAS
                                                                     253
                                                                                                                                                                                                                121; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   253 TIAIAYIMKRMDMSLDBAYRFVKEKRPTISPNENELGQLLDYEKKIK 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     134 GLCEGK-STLVPTCISQECLPVANIGETRILPNLYLGCQRDVLNKELIQQNGIGYVLNAS 192
                                                                                                                                                           61
                                                                                                                                                                                                         h
41.8%; Score 654.5; DB
Similarity 72.5%; Pred. No. 1e-63;
21; Conservative 27; Mismatches
                               TIAIAYIMKTMGMSSDDAYRFVKDRRPSISPNFNFLGQLLEYERTLK 167
                                                    TIAIAYIMKRMDMSLDEAYRFVKEKRFTISDNFNFLGQLLDYEKKIK 299
                                                                                                                                              ĠĹĊĒĠĸPAAĹĿPMSĿŚQPĊĹPŸPSVĠĿTŖĬĹPHĹYĹĠŚQĸDŸĹNKDĹMTQNĠĬSYŶĹŊĀŚ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NSCPKPDF I CESRFMR V PINDNY CEKLL PWLDKS I EFIDKAKLSSCQ VIVHCLAGISRSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TIAIAYIMKTMGMSSDDAYRFVKDRRPSISPNFNFLGQLLEYERTLK 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GLCEGKPAALLPMSLSQPCLPVPSVGLTRILPHLYLGSQKDVLNKDLMTQNGISYVLNAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Application US/09557921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           41.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 654.5; DB
Pred. No. 1e-63;
27; Mismatches
                                                                                                                                                                                                                                     DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 4;
                                                                                                                                                                                                              18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          18;
                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                     Length 170;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 170;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                           ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1;
                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                60
                                                                                                                                                                             192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1;
```

```
GENERAL INFORMATION:

APPLICANT: Luche, Ralf M.

APPLICANT: Hei, Bo

TITLE OF INVENTION: DSP-11 DUAL SPECIFICITY PHOSPHATASE

FILE REFERENCE: 200125.418

CURRENT APPLICATION UMBER: US/09/619,380

CURRENT FILING DATE: 2000-07-19

NUMBER OF SEQ ID NOS: 22

SOFTMARE: FastSEQ for Windows Version 4.0

SEQ ID NO 16

LENGTH: 170

TYDEN: DRM
                                S
                                                                       밁
                                                                                                    Š
                                                                                                                                       밁
                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                   ; ORGANISM: Homo sapiens US-09-619-380-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 5
US-09-619-380-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; TYPE: PRT ; ORGANISM: Homo sapiens US-09-564-357-17
                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                    Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-564-357-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 16, Appl Patent No. 664939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
TITLE OF INVENTION: DSP-5 DUAL-SPECIFICITY PHOSPHATASE
FILE REFERENCE: 200125,413
CURRENT APPLICATION NUMBER: US/09/564,357
CURRENT FILING DATE: 2000-04-24
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 17, Application US/09564357
Patent No. 6645753
                                                                                                                                                                                                                                                                                                  TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 170
121 TIAIAYIMKTMGMSSDDAYRFVKDRRPSISPNFNFLGQLLBYERTLK 167
                      253 TIAIAYIMKRMDMSLDBAYRFVKEKRPTISPNENELGQLLDYEKKIK 299
                                                                                193 YTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCVLVHCLAGISRSA 252
                                                                                                                                            134 GLCEGK-STLYPTCISQPCLPYANIGPTRILPNLYLGCORDYLNKELIQQNGIGYYLNAS 192
                                                                                                                                                                                                    121;
                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        253 TIAIAYIMKRMDMSLDEAYRFVKEKRPTISDNFNFLGQLLDVEKKIK 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   134 GLCEGK-STLVPTCISQPCLPVANIGPTRILPNLYLGCQRDVLNKELIQQNGIGYVLNAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 NSCPKPDFICESRFMRVPINDNYCEKLLPWLDKSIEFIDKAKLSSCQVIVHCLAGISRSA
                                                                                                                                                                                                 Similarity 72.5
21; Conservative
                                                               NSCPKPDFICESRFMRVPINDNYCEKLLPWLDKSIEFIDKAKLSSCQVIVHCLAGISRSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TIAIAYIMKTMGMSSDDAYRFVKDRRPSISPNFNFLGQLLEYERTLK 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ĠĹĊEĠKPAAĹĿPMSĿŚQPĊĿPVPSVGĿTŘĬĹPHĹYĹĠSQKDVĽNKDĽMTQNĠÍSYVĽNAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Application US/09619380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                             41.8%; Score 654.5; DB 72.5%; Pred. No. 1e-63; tive 27; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 41.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 654.5; DB
Pred. No. 1e-63;
27; Mismatches
                                                                                                                                                                                                                         DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 4;
                                                                                                                                                                                               18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18;
                                                                                                                                                                                               Indels
                                                                                                                                                                                                                            Length 170;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 170;
                                                                                                                                                                                             1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1;
                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
```

RESULT 6 US-09-557-921-2

```
Sequence 2, Application US/09557921
Patent No. 6551810
GENERAL INFORMATION:
APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
TITLE OF INVENTION: DSP-10 DUAL-SPE
PILE REFERENCE: 200125.416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-371-671B-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ર્
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-557-921-2
  밁
                                  ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/09/557,921
CURRENT FILING DATE: 2000-04-20
NUMBER OF SEQ ID NOS: 20
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 2
LENGTH: 482
TYPE: PRT
                                                                                                           Best
                                                                                                                                                                                                                                                               SEQ ID NO 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 11, Application US/09371671B Patent No. 6548743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 107; Conserv
                                                                                                                               Query Match
                                                                                                                                                                             -09-371-6718-11
                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: 60/155,934
PRIOR FILING DATE: 1999-01-14
PRIOR APPLICATION NUMBER: 60/095,938
PRIOR FILING DATE: 1998-08-10
NUMBER OF SEQ ID NOS: 11
                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: TRANSGENIC PLANTS EXPRESSING A TITLE OF INVENTION: DUAL-SPECIFICITY MAPK PHOSPHATASE AND USES FILE REFERENCE: 007086/370002

CURRENT APPLICATION NUMBER: US/09/371,671B

CURRENT FILING DATE: 1999-08-10
                                                                                                                                                                                             LENGTH: 314
TYPE: PRT
ORGANISM: Mus (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Sheen, Jen
APPLICANT: Chiu, Wan-Ling
                                                                                                                                                                                                                                                                                      SOFTWARE: FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Homo sapiens
                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 173 VIIDCRPEMEYNKSHIQGAVHINCADKISRRKLQQGKITVLDLISCREGKDSFKRIFSKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           243 HCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKIKN 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    351 VINVTTHLPLYHYEKGLF----NYKKLFATDSNKQNLRQYFEEAFEFIEEAHQCGKGLLI 406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        293 CREVGGGASAASSILPQPI--PTTPDIENAELTPILPFLFLGNEQDAQDLDTMQRLNIGY 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               233 IIVYDENTNEPSRVMPSQPLHIVLESLKREGKEPLVLKGGLSSFKQNHENLCDNSLQLQE
  3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      85 VVVYDQSSQDVASLSSDCFLTVLLGKLEKSFNSVHLLAGGFAEFSRCFPGLCEGK----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27 LLIDSRPFVEYNTSHILEAININCS-KLMKRRLQQDKVLITELIQ-HSAKHKVDIDCSQK
                                         15 LVALLESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELIQHSAK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FastSEQ for Windows Version 4.0
LRALLREGAAQCLLLDCRSFFAFNAGHIAGSVNVRFSTIVRRRAKGAMGLEHIVDNAELR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HCOAGVSRSATIVIAYLMKHTRMTMTDAYKFVKGKRPIISPNLNFMGOLLEFEEDLNN 464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VLNAS - - - - - YTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGCVLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----STLVPTCISQPCLP-VANIGPTRILPNLYLGCQRDVLNKELIQQNGIGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30.0%; Score 469; DB 4 ilarity 35.9%; Pred. No. 1e-42; Conservative 65; Mismatches
                                                                                      Conservative
                                                                                                                                                                                               musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DSP-10 DUAL-SPECIFICITY PHOSPHATASE
                                                                                                        27.2%; Score 425; DB 4; Length 314; 34.3%; Pred. No. 3.7e-38;
                                                                                      48;
                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 4; Length 482;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          96;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30;
                                                                                      22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   THEREOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               292
    72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               84
                                                                                      5
```

```
8
                                                밁
                                                                                    á
                                                                                                                                                                  Ş
                                                                                                                                                                                                            맑
                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                           片
                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-990-379-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; ORGANISM: Mus
US-08-990-379-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 6, Application US/08990379
Patent No. 5999188
GENERAL INFORMATION:
APPLICANT: Stork, Philip J
APPLICANT: Misra-Press, Anita
TITLE OF INVENTION: Mitogen Activated Protein Kinase Phosphatase cDNAs
TITLE OF INVENTION: Their Biologically Active Expression Products
TITLE OF INVENTION: US/08/990,379
TILE REFERENCE: 4104-000322USA
FILE REFERENCE: 1997-12-15
FOURTHIAND DATE: 1997-12-15
EARLIER APPLICATION NUMBER: PGT/US96/10402
EARLIER FILING DATE: 1996-06-14
EARLIER APPLICATION NUMBER: 60/000,263
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: PatentIn Ver.
SEQ ID NO 6
LENGTH: 367
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQ ID NOS: 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       310 SQV 312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          176 NKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKA
                                                  250
                                                                                                                                191
                                                                                                                                                                  176 NKELIQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKA 235
                                                                                                                                                                                                              133
                                                                                                                                                                                                                                                     133 PGLCEGKSTLVPTCISQP-------CLPVANI-----GPTRILPNLYLGCQRDVL 175
        296 KKI 298
                                                                                      236 SNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYB 295
                                                                                                                                                                                                                                                                                                                                                                                                                                                           104;
                                                                                                                                                                                                                                                                                                                                                                                                        15 LVALLESGTEKVILIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELIQHSAK
                                                                                                                                                                                                                                                                                               73 GRLLAGAYHAVVLLDERSASLDGAKRDGTLALAAGALCREARSTQVFFLQGGYEAFSASC
                                                                                                                                                                                                                                                                                                                                 75 HKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKL--EKSFNSVHLLAGGFAEFSRCF 132
                                                                                                                                                                                                                                                                                                                                                                           13 LRALLREGAAQCLLLDCRSFFAFNAGHIAGSVNVRFSTIVRRRAKGAMGLEHIVPNAELR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    73 GRILAGAYHAVVLLDERSASLDGAKRDGTLALAAGALCREARSTQVFFLQGGYEAFSASC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        75 HKVDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKL--EKSFNSVHLLAGGFABFSRCF 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RKDMLDALGITALINVSANCPN-HFEGHYQYKSIPVEDNHKADISSWFNEAIDFIDSIKD
                                                AGGRVFVHCQAGISRSATICLAYLMRTNRVKLDEAFEFVKQRRSIISPNFSFMGQLLQFE 309
                                                                                                                              RKDMLDALGITALINVSANCPN-HFEGHYQYKSIPVEDNHKADISSWFNEAIDFIDSIKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KKI 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PELCSKOST -- PTGLSLPLSTSVPDSAESGCSSCSTPLYDQGGPVEILSFLYLGSAYHAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PGLCEGKSTLVPTCISQP------CLPVANI-----GPTRILPNLYLGCQRDVL 175
                                                                                                                                                                                                              PELCSKOST -- PTGLSLPLSTSVPDSAESGCSSCSTPLYDQGGPVEILSFLYLGSAYHAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGGRVFVHCQAGISRSATICLAYLMRTNRVKLDEAFEFVKQRRSIISPNFSFMGQLLQFE
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ďВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                         27.2%; Score 425; DB 2; I
34.3%; Pred. No. 4.6e-30;
tive 40; Mismatches 129;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 367;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                             72
                                                                                                                                  249
                                                                                                                                                                                                                 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        190
```

310 SQV 312

```
밁
                                     Ş
                                                                                   밁
                                                                                                                    Ś
                                                                                                                                                            뭐
                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                     片
                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                        US-08-530-290-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 9
US-08-530-290-23
                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 23, Applicat Patent No. 5958721 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: (415) 576-030
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 394 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTMARE: PATEHLA. SOFTMARE: PATEHLA. SOFTMARE: PATEHLATION DATA:
APPLICATION NUMBER: US/08/i
APPLICATION NUMBER: US/08/i
APPLICATION NUMBER: US/08/i
APPLICATION NUMBER: US/08/i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: 08
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 9:
FILING DATE: 07-APR-1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/GB94/00694
FILING DATE: 31-MAR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Hughes, David Anthony TITLE OF INVENTION: Methods for ITITLE OF INVENTION: Therapeutic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Marshall, Christopher
APPLICANT: Ashworth, Alan
                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS:
TOPOLOGY: li
                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 34,774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: 10-FEB-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: Two Embarca
CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
                                   180 IQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC 239
                                                                                                          135 LCEGKSTL-----VPTCISQP----CLPVA----NIGPTRILPNLYLGCQRDVLNKEL 179
                                                                                                                                                97 LRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSEYPE
                                                                                                                                                                                               77
                                                                                                                                                                                                                                     39
                                                                                                                                                                                                                                                             19 LESGTEKVILI DSRPFVEYNTSHILEAININÇSKLMKRRLQQDKVLITELI -- QHSAKHK 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  23, Application US/08530290
5. 5958721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               94111-3834
LDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFMEAIEYIDAVKDCRGR 275
                                                                       FCSKTKALAAIPPPVPPSATEPLDLDCSSCGTPLHDQEGPVEILPFLYLGSAYHAARRDM
                                                                                                                                                                                    VDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRCFPG
                                                                                                                                                                                                                         LPSG-GKCLLLDCRPFLAHSAGYILGSVNVRCNTIVRRR-AKGSVSLEQILPAEEEVRAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 394 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E: Townsend and Townsend and Crew LLP
Two Embarcadero Center, Eighth Floor
                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                                                                                                                                                                                                                                                     peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ) 576-0300
1 576-0300
23:
                                                                                                                                                                                                                                                                                                    27.2%; Score 425; DB 2; Length 394; 33.1%; Pred. No. 5.2e-38; tive 62; Mismatches 116; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Methods for Screening of
Therapeutic Activity and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GB 9307250.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GB 9402573.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US/08/530,290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           084611-000000US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Substances for Yeast for Use
                                                                                                                                                                                                                                                                                                    22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Therein
                                                                                                                                                                                                                                                                                                    Gaps
                                                                           216
                                                                                                                                                  156
                                                                                                                                                                                      134
                                                                                                                                                                                                                           96
                                                                                                                                                                                                                                                                                                    00
```

```
RESULT 11
US-09-702-705-827
                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; ORGANISM: Homo sapiens US-09-702-705-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS:
SOFTWARE: FASTSEQ for
SEQ ID NO 805
LENGTH: 394
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 10
US-09-702-705-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                           GENERAL
                                                                                                                                                                                          Sequence 827, Application US/09702705
Patent No. 6504010
                                                     APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                         APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                         APPLICANT:
                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Fan, Liqun
TITLE OF INVENTION: COMPOSITIONS AND METHODS
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 20121.478C14
CURRENT APPLICATION NUMBER: US/09/702,705
CURRENT FILING DATE: 2000.10-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
                                                                                                                                                                           INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       No. 650401
                                                                                                                                                                                                                                                                                                  276
                                                                                                                                                                                                                                                                                                                       240 VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKI 298
                                                                                                                                                                                                                                                                                                                                                         217 LDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFMEAIEYIDAVKDCRGR
                                                                                                                                                                                                                                                                                                                                                                                         180 IQQNGIGYYLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC 239
                                                                                                                                                                                                                                                                                                                                                                                                                             157 FCSKTKALAAIPPPVPPSATEPLDLDCSSCGTPLHDQEGPVEILPFLYLGSAYHAARRDM 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                            135 LCEGKSTL-----VPTCISQP----CLPVA----NIGPTRILPNLYLGCQRDVLNKBL 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              97 LRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSEYPE 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              77 VDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRCFPG 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19 LESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELI--QHSAKHK 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         276
       INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240 VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKI 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       805,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                   Bangur, Chaitany
Lodes, Michael A
Fanger, Gary
Vedvick, Tom
Carter, Darrick
Retter, Marc
                                                                                                                                                                                                                                                                                         VLVHCQAGISRSATICLAYLMMKKRVRLEEAFEFVKQRRSIISPNFSFMGQLLQFESQV 334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LPSG-GKCLLLDCRPFLAHSAGYILGSVNVRCNTIVRRR-AKGSVSLEQILPAEEEVRAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Vedvick, Tom
Carter, Darrick
Retter, Marc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VLVHCQAGISRSATICLAYLMMKKRVRLEEAFEFVKQRRSIISPNFSFMGQLLQFESQV 334
                                   Mannion, Jane
                                                                                                                                                         Wang, Tongtong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Fanger, Gary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bangur, Chaitanya
Lodes, Michael A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mannion, Jane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Wang, Tongtong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Application US/09702705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                   Liqun
                                                                                                                                        Chaitanya
COMPOSITIONS AND METHODS FOR THE THERAPY AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27.2%; Score 425; DB 4; 33.1%; Pred. No. 5.2e-38; ative 62; Mismatches 116
                                                                                                                                      ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ß
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches 116; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FOR THE THERAPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 394;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 12
US-09-736-457-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                               ঠ
                                                                                                                                          ; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-736-457-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-702-705-827
 용
                                                                                                                                                                                              SOFTWARE: Fa
SEQ ID NO 805
LENGTH: 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/702,705
CURRENT FILING DATE: 2000-10-30
NUMBER OF SEQ ID NOS: 1833
SOFTWARE: FASTSEQ for Windows Version 3.0
SEQ ID NO 827
LENGTH: 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Patent No. 6509448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 100;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                      Query Match
                                                                                                                                                                                                                                                              APPLICANT: Fan, Liqun
APPLICANT: Wang, Aijun
TITLE OF INVENTION: COMPOSITIONS AND METHODS
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C15
CURRENT APPLICATION NUMBER: US/09/736,457
CURRENT FILING DATE: 2000-12-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER FILE REFERENCE: 210121.478C14
                                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Homo sapiens
                                                                                         Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      276 VLVHCQAGISRSATICLAYLMMKKRVRLEEAFEFVKQRRSIISPNFSFMGQLLQFESQV 334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240 VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKI 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             217 LDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFMEAIEYIDAVKDCRGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180 IQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      135 LCEGKSTL-----VPTCISQP-----C-LPVANI-GPTRILPNLYLGCQRDVLNKEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          97
   9
                                   19 LESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELI--QHSAKHK 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         77 VDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRCFPG 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19 LESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELI--QHSAKHK 76
                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LPSG-GKCLLLDCRPFLAHSAGYILGSVNVRCNTIVRRR-AKGSVSLEQILPAEEEVRAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FCSKTKALAAIPPPVPPSATEPLDLGCSSCGTPLHDQGGPVEILPFLYLGSAYHAARRDM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSEYPE
LPSG-GKCLLLDCRPFLAHSAGYILGSVNVRCNTIVRRR-AKGSVSLEQILPAEEEVRAR
                                                                                                                                                                                                                                    FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                            Carter, Darri
Retter, Marc
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fanger, Gary
Vedvick, Tom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bangur, Chaitar
Lodes, Michael
                                                                                                                                                                                                                                                                                                                                                                                                 Mannion, Jane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Application US/09736457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tongtong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Chaitanya
Michael A.
                                                                                                                                                                                                                                                                                                                                                                                                                                  Darrick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27.2%;
                                                                                     27.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64; Mismatches 113; Indels
                                                                     Score 425; DB 4;
Pred. No. 5.2e-38;
2; Mismatches 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 425; DB 4;
Pred. No. 5.2e-38;
                                                                                                                                                                                                                                                                                                                                            FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 394;
                                                                                                      Length 394
                                                                                                                                                                                                                                                                                                                                            THE
                                                                       Indels
                                                                                                                                                                                                                                                                                                                                            THERAPY AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22;
                                                                       22;
                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 96
```

```
APPLICANT: Fan, Liqun
APPLICANT: Wang, Aijun
TITLE OF INVENTION: COMPOSITIONS AND METHODS FO:
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C15
CURRENT APPLICATION NUMBER: US/99/736,457
CURRENT FILING DATE: 2000-12-13
NUMBER OF SEQ ID NOS: 1864
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                               5
                                                                              밁
                                                                                                                  Ş
                                                                                                                                                            밁
                                                                                                                                                                                                ð
                                                                                                                                                                                                                                          문
                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-736-457-827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-736-457-827
                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Patent No. 6509448
                                                                                                                                                                                                                                                                                                                                                                                                           Matches 100;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 394
TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                217
                                                                                                                                                              157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              135
                                        240
                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         276 VLVHCQAĞISRSATİCLAYLMMKKRVRLEEAFEFVKQRRSIISPNFSFMGQLLQFESQV 334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        217 LDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFMEAIEYIDAVKDCRGR
                                                                                                                                                                                                  135 LCEGKSTL-----VPTCISQP------C-LPVANI-GPTRILPNLYLGCQRDVLNKEL 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    827,
                                                                                                                                                                                                                                               97
                                                                                                                                                                                                                                                                                                                           39 LPSG-GKCLLLDCRPFLAHSAGYILGSVNVRCNTIVRRR-AKGSVSLEQILPAEBEVRAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              77
                                                                                                                                                                                                                                                                                   77 VDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRCFPG 134
                                                                                                                                                                                                                                                                                                                                                                 19 LESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELI--QHSAKHK
                                 VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKI 298
                                                                              LDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFMEAIEYIDAVKDCRGR
                                                                                                                                                                                                                                               LRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSEYPE 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKI 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LCEGKSTL-----VPTCISQP----CLPVA----NIGPTRILPNLYLGCQRDVLNKEL 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSEYPE 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRCFPG
                                                                                                                    IQONGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC
                                                                                                                                                                FCSKTKALAAIPPPVPPSATEPLDLGCSSCGTPLHDQGGPVEILPFLYLGSAYHAARRDM 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FCSKTKALAAIPPPVPPSATEPLDLDCSSCGTPLHDQEGPVEILPFLYLGSAYHAARRDM
VLVHCQAGISRSATICLAYLMMKKRVKLEEAFEEVKQRKSIISPNFSFMGQLLQFESQV 334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Retter, Marc
Mannion, Jane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fanger, Gary
Vedvick, Tom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Carter, Darrick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bangur, Chaitar
Lodes, Michael
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Wang, Tongtong
Bangur, Chaitanya
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Application US/09736457
                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                       27.2%; Score 425; DB 4; Length 394; 33.4%; Pred. No. 5.2e-38; ative 64; Mismatches 113; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ß
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FOR THE
                                                                                                                                                                                                                                                                                                                                                                                                             22;
                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          216
                                                                                                                                                                                                                                                                                                                               96
                                                                                                                                                                                                                                                                                                                                                                                                             9
```

RESULT 14 US-09-614-124B-805 · Sequence 805, Application US/09614124B

Patent No. 6630574

INFORMATION:

APPLICANT: Wang, Tongtong APPLICANT: Bangur, Chait

Chaitanya S.

```
APPLICANT: Mannion, Jane
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
FILE REFERENCE: 210121.478C9
CURRENT APPLICATION NUMBER: US/09/614,124B
CURRENT FILING DATE: 2001-07-11
NUMBER OF SEQ ID NOS: 1668
SOFTWARE: FASESEQ for Windows Version 3.0
SEQ ID NO 805
LENGTH: 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; TYPE: PRT; ORGANISM: Homo sapiens US-09-614-124B-805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         á
; TYPE: PRT ; ORGANISM: Homo sapiens US-09-614-124B-827
                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-614-124B-827
                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
APPLICANT:
                                                   FILE REFERENCE: 210121.47869
CURRENT APPLICATION NUMBER: US/09/614,124B
CURRENT FILING DATE: 2001-07-11
NUMBER OF SEQ ID NOS: 1668
SOFTWARE: PastSEQ for Windows Version 3.0
SEQ ID NO 827
LENGTH: 394
                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                            Sequence 827, Application US/09614124B Patent No. 6630574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                        APPLICANT: Wang, Tongtong
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Lodes, Michael A.
                                                                                                                                                                                       APPLICANT: Fanger, Gary
APPLICANT: Vedvick, Tom
APPLICANT: Carter, Darrick
APPLICANT: Retter, Marc
APPLICANT: Retter, Marc
APPLICANT: Mannion, Jane
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THERAPY AND
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180 IQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240 VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKI 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               157 FCSKTKALAAIPPPVPPSATEPLDLDCSSCGTPLHDQEGPVEILPFLYLGSAYHAARRDM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  135 LCEGKSTL-----VPTCISQP----CLPVA----NIGPTRILPNLYLGCQRDVLNKEL 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19 LESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELI--QHSAKHK 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ch 27.2%;
l Similarity 33.1%;
99; Conservative 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fanger, Gary
Vedvick, Tom
Carter, Darrick
Retter, Marc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSEYPE 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRCFPG 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFMEAIEYIDAVKDCRGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Lodes, Michael A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; Score 425; DB 4; Length 394; ; Pred. No. 5.2e-38; 62; Mismatches 116; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      THERAPY AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         œ
```

```
Ś
                                                                                                                                                              밁
                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                           당
                                Ş
                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 27.2%; Score 425; DB 4; Length 394; Best Local Similarity 33.4%; Pred. No. 5.2e-38; Matches 100; Conservative 64; Mismatches 113; Indels
                                                                                                                                                              157
                                                                              217 LDALGITALLNVSSDCPN-HFEGHYQYKCIPVEDNHKADISSWFMEAIEYIDAVKDCRGR
                                                                                                                       180
                                                                                                                                                                                                   135 LCEGKSTL-----VPTCISQP-----C-LPVANI-GPTRILPNLYLGCQRDVLNKEL 179
                              240 VLVHCLAGISRSATIAIAYIMKRMDMSLDEAYRFVKEKRPTISPNFNFLGQLLDYEKKI 298
                                                                                                                                                                                                                                               97
                                                                                                                                                                                                                                                                                    77 VDIDCSQKVVVYDQSSQDVASLSSDCFLTVLLGKLEKSF--NSVHLLAGGFAEFSRCFPG 134
                                                                                                                                                                                                                                                                                                                             39 LPSG-GKCLLLDCRPFLAHSAGYILGSVNVRCNTIVRRR-AKGSVSLEQILPAEEEVRAR 96
                                                                                                                                                                                                                                                                                                                                                                      19
                                                                                                                                                              FCSKTKALAAIPPPVPPSATEPLDLGCSSCGTPLHDQGGPVEILPFLYLGSAYHAARRDM 216
                                                                                                                                                                                                                                               LRSGLYSAVIVYDERSPRAESLREDSTVSLVVQALRRNAERTDICLLKGGYERFSSEYPE 156
                                                                                                                                                                                                                                                                                                                                                                  LESGTEKVLLIDSRPFVEYNTSHILEAININCSKLMKRRLQQDKVLITELI--QHSAKHK 76
                                                                                                                   IQQNGIGYVLNASYTCPKPDFIPESHFLRVPVNDSFCEKILPWLDKSVDFIEKAKASNGC
||||| |||||||| :||:| : |:||:|||||:|| |||||:|:||||| 334
                                                                                                                                                                                                                                                                                                                                                                                                                          22;
                                                                                             275
                                                                                                                                  239
```

Search completed: June 21, 2004, 13:25:44
Job time: 11.3061 secs

GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.

```
Command line parameters:

-MODBL-frame+ p2n.model -DEV=xlh
-Q=/cgn2_1/USPTO_spool/US10029345/runat_21062004_164146_29030/app_query.fasta_1.1294
-Q=/cgn2_1/USPTO_spool/US10029345/runat_21062004_164146_29030/app_query.fasta_1.1294
-DB=GenEmbl -QFMT-fastap -SUFFIX=rge -MINMATCH=0.1 -LOOPCL=0 -LOOPEXT=0
-UNITS=bits -START=1 -EXD=-1 -MARIX=blosum62 -TRANS=human40.cdi -LIST=45
-DCCALIGN=200 -THR_SCORE=pct -THR_MAX=100 -THR_MIN=0 -ALIGN=15 -MODE=LOCAL
-OUTPMT=pto -NORM=ext -HEAPSIZE=50 -MINLEN=0 -MAXLEN=200000000
-USER-US10029345_@CGN 1 1 6617_@runat 21062004 164146 29030 -NCPU=6 -ICPU=3
-NO_MMAP -LARGEQUERY -NEG_SCORES=0 -MAIT -DSPBICOK=100 -LONGLOG
-DEV_TIMEOUT=120 -MARN_TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPOP=6
-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OM protein - nucleic search, using frame_plus_p2n model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Xgapop 10.0,
Ygapop 10.0,
Fgapop 6.0,
Delop 6.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                June 21, 2004, 21:02:42 ; Search time 3544.67 Seconds (without alignments) 3692.750 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3470272 segs, 21671516995 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-029-345A-109_COPY_1_302
1564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GenEmbl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MAHEMIGTQIVTERLVALLE......PNFNFLGQLLDYEKKIKNQT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gb_ba:*
gb_in:*
gb_om:*
                                                                                                                                                                                                                                                                                                                                                                                             gb_ov: *
gb_ph: *
gb_ph: *
                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                         gb_sts:*
                                      em_mu:
em_on:
em_or:
em_ov:
em_pat:
em_ph::
                                                                                                                                                                                     em_fun:*
em_hum:*
em_in:*
em_ro:*
em_sts:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             om:
                                                                                                                                                                                                                                                                                                                                                  ro:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Xgapext
Ygapext
Fgapext
Delext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          7.0
7.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6940544
```

```
29: em_vi:*
30: em_htg_inv:*
31: em_htg_other:*
32: em_htg_other:*
34: em_htg_mus:*
35: em_htg_pln:*
35: em_htg_rod:*
36: em_htg_vrt:*
37: em_htg_vrt:*
38: em_py:*
39: em_htg_omus:*
40: em_htgo_mus:*
41: em_htgo_mus:*
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

45	44	43	42	41	40	. 39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	80	7	σ	σı	4	ω	2	_	Result
858.5	58.	34.	943	æ	œ	œ	988	œ	æ	1019.5	1034	1172.5		1194.5	1246	1246	1312	1375.5		1504.5	1514	\mathbf{r}		\vdash	Α	4	4	Ġ		S)	υı	1552	v.	1552	ហ	55	នូ	ū	55	1552	Մե	տ	1564		Score
4	4	59.8		ü	·	ω.	63.2	ü	Ψ	<u>ب</u>		75.0	76.4	76.4	79.7	9	83.9	7.	95.4	٥.	96.8	7.	97.0	7.		8	œ	9	99.2	9	9		9	ø	٥	٠	٠	ē	ق	ō	•			100.0	at d
2	8379	2415	47	60	4	5	2377	2377	2264	3231	98	82	3332	9	749	749	2807	4026	2756	2200	4992	97	4943	4874	5111	10	10	79	79	79	3766	3566	3544	52	3496	28	5	20	73	2118	9	99	Ü	5450	Length
N	9	თ	0	10	10	6	ø	6	ø	Ç,	10	10	6	9	σ	6	9	10	δ	6	10	10	10	10	δ	9	δ	9	o.	σ	σ	9	δ	9	σ	ø	σ	თ	σ	σ	Q	თ	σ	σ	88
AC037447	02240	A59887	552	BCOS	MMNTTP1	A59888	U27	AR255944	BC045110	BC063941	AF345	AF3459	122	892	BD148531		Φ	AF345953	AX482444	AX921915	AF345951	C05732	BC059232	215	237	597	398	B05148	D18342	\vdash	AX374994	AF506796	AX260340	5215		4210	0570	78	8087	99	2191	34	AX482478	AX482439	ID
Homo	AC022400 Homo sapi	A59887 Sequence 5	552119	052705 Mu8 mu	95518 M.musculus	888 Sequence 6	193 Hu	55944 Sequ	45110	063941 Danio re	345954 Mus II	345952	41229 8	38927	48531 Primer f	AX868469 Sequence	1643	953 Mus mus	AX482444 Sequence	1915	345951	321	C0592	57	Seque	ω		87 Homo s	2 Novel	Novel g	4 Seque	796	40 Seque	56 H	0 Seque	42101 Homo 8a	5700 Sequenc	461 Sequenc	875 S	933 S	AX921917 Sequence	AX260342 Sequence	O	82439 Sequenc	Description

ALIGNMENTS

```
Ş
                              밁
                                                            Ş
                                                                                           밁
                                                                                                                  8
                                                                                                                                                   밁
                                                                                                                                                                              Ś
                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                           Best L
Query
                                                                                                                                                                                                                                                                                                                        US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                                                                                                                          Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AX482439
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                    .
No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
      101
                                                                                           718
                                                                                                                                                   658
                                                                                                                                                                                                             598
                                                                                                                                                                                                                                                                       538
                                                             81
                                                                                                                     61
                                                                                                                                                                                41
                                                                                                                                                                                                                                        21
                                                                                                                                                                                                                                                                                                  ۲
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Suchard, S., Banas, D., Bassolino, D., Feder, J., Krystek, S., Mcatee, P., Mintier, G., Siemers, N., Jackson, D.G. and Ramanathan, C. Polynucleotides encoding human phosphatases Patent: WO 02057460-A 108 25-JUL-2002; SQUIBB BRISTOL MYERS CO (US)
AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu 120
                                            CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                   GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                      AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                            CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                               HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMctLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Todderud, C.G., Bol, D., Finger, J., Lee, L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AX482439.1 GI:22316984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AX482439
Sequence 108 from Patent
AX482439
                                                                                                                                                                                                                       SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                               atgecccateaeateattegaactcaaattettacteagagettegtegctetectegaa
                                                                                                                                                                                                                                                                                        MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      domo
                                                                                                                                                                                                       AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /protein_id="CAD44451.1"
//db_xref="GI:22316985"
//db_xref="GI:22316985"
//db_xref="GI:22316985"
//db_xref="GI:22316985"
//db_xref="GI:22316985"
//db_xref="GI:22316985"
//db_xref="GI:22316985"
//translation="MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILE
AININCSKLMKRRLQODKVLITELIQHSAKHKVDIDCSGKVIVVVDQSSQDVASILSSDC
FLTVLLKKLEKSFRSVHLLAGGFAEFSRCFFGLCEKSTIVPTCISQPCLPVANIGFT
RILPNLYLGCQRDVLNKELIQQNGIGYVLNASYTCPKDPIPESHFLRVPVNDSFCEK
ILPNLYLGCQRDVLNKELIQQNGIGYVLNASSYTCPKDFIPESHFLRVPVNDSFCEK
RFTLSPNFNFLGGLLDYEKIKINQTGASGFKSKLKLLHLEKPNEPVPAVSEGGQKSE
KRFTLSPNFNFLGGLLDYEKIKINQTGASGFKSKLKLLHLEKPNEPVPAVSEGGQKSE
TPLSPPCADSATSEAAGQRPVHPASVPSVPSVQPSLLEDSFLVQALSGLHLSANRLE
SKLKKSFSLDIKSVSYSASMASLHGFSSEBLAEYYKFSTTLDGTNKLCQFSPVQE
LSEQTPETSFDXEEASIPKKLQTARSESDSGKRLHSVRTSSGTAQRSLLSPLHRSGS
VEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWHSDILAPQTSTFSLTSSWFFATESSHF
YSASAIYGGSASYSAYSCSQLFTCGDQYYSVRRRQKFSDRADSRRSWHEESFFEKQFK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sapiens (human)
sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RRSCQMEFGESIMSENRSREELGKVGSQSSFSGSMEIIEVS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                note="unnamed protein product"
codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /mol_type="unassigned DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                      6.58e-151
1564.00
100.00%
100.00%
100.00%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5450 bp 1
WO02057460
                                                                                                                                                                                                                                                                                                                           x AX482439 (1-5450)
                                                                                                                                                                                                                                                                                                                                                                                                  Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                     Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA
                                                                                                                                                                                                                                                                                                                                                       0000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nelson, T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PAT 16-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Schieven, G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo
                             837
                                                       100
                                                                                     777
                                                                                                                80
                                                                                                                                                                          60
                                                                                                                                                                                                                                 40
                                                                                                                                              717
                                                                                                                                                                                                       657
                                                                                                                                                                                                                                                                597
                                                                                                                                                                                                                                                                                            20
                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                  LOCUS
DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 2
AX482478
                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                         맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                     TITLE
JOURNAL
                                                                                                                                                                                                                                               AUTHORS
                                                                                   CDS
                                                                                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                                                                                         1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGACT 1443
```

```
121 LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer 140
                                                                                                                                                                                                                                                                                       Todderud,C.G., Bol,D., Finger,J., Lee,L., Nelson,T., Schieven,G., Suchard,S., Banas,D., Bassolino,D., Feder,J., Krystek,S., Mcatee,P., Mintier,G., Siemers,N., Jackson,D.G. and Ramanathan,C. Polynucleotides encoding human phosphatases Patent: WO 02057460-A 147 25-JUL-2002; SQUIBB BRISTOL MYERS CO (US)
                                                                                                                                                                                                                                                                                                                                                                                                         Todderud, C.G., Bol, D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens (human)
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AX482478 5
Sequence 147 from Patent
AX482478
AX482478.1 GI:22316999
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA 1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
/proteIn_id="CAD44453.1"
/db_xref="GI:22317000"
/db_xref="RMTREMEL;CAD44453"
/translation="MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILE
                                                                                                                      note="unnamed protein product"
                                                                                                                                                                 organism="Homo sapiens"
/mol_type="unassigned DN:
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                  codon_start=1
                                                                                                                                                  . 2535
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chordata; Craniata; Vertebrata; Euteleostomi; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5450 bp D: D: WO02057460.
                                                                                                                                                                                            DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PAT 16-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       897
```

AININCSKLMKRRLQQDKVLITELIQHSAKHKVDIDCSQKVVVVDQSSQDVASLSSDC FLTVLLGKLEKSFNSVHLLAGGFRAFFSRCFPGLCEGKSTLVPTGISQPCLFVANIGFT RILPNLYLGCQRDVLNKELIQQNGIGYVLNASYTCCKKPPI BESHFLRVPVNDSFCEK ILPMLDKSVDF EKAKASNGCULVHCLAGISRSATIALAYIMKRMDMSLDAYRFVKE KRPTISPPCADSATSBAAGQRPVHFASVPSVPSVPSVPSVLLEDSFLYQALSGLHLSADRLED SPLYADSATSBAAGQRPVHFASVPSVPSVPSVPSVLEDSFLYQALSGLHLSADRLED SNKLKRSFSLDIKSVSYSASMAASLHGFSSSEDALEYKRFTTLDGTNKLCQPSPVQE LSEQTPETSPDKEEASIPKKLQTARPSDSQSKRLHSVRTSSSGTAQRSLLSPLHRSGS VEDNYHTSPLFGLSTSQOHLTKSAGCLGLKGWHSDILAPQTSTPSLTSSMYFATESSHF YSASAIYGGSASYSAYSCSQLFTCGDQVYSVRRRQKPSDRADSRRSWHEESPFEKQFK RRSCQMEFGESIMSENRSREELGKVGSQSSFGGSMEIIEVS"

```
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ঠ
                                                                                                     ક
                                                                                                                               유 상 유
                                                                                                                                                                                                      ક
                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                        ঠ
                                                                                                                                                                                                                                                                                                                                     음 성
                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                         ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score:
           S
                                 밁
                                                        ঠ
                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-029-345A-109_COPY_1_302 (1-302) x AX482478 (1-5450)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Хо
:
                                                                                                                                                                                      1018
                                                                                                                                     1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Scores:
                                                                                                                                                             181
                                                                                                                                                                                                             161
                                                                                                                                                                                                                                                                                      868
                                                                                                                                                                                                                                                                                                                                      838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       538
              241
                                                                                                                                                                                                                                                              141
                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                              101
                                                                                                                                                                                                                                                                                                                                                                                      778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                             81
                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ш
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HisīleLeuGluAlaīleAsnīleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaTleAlaTyrIleMet
                                                                                                     IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                    GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                      CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                                                                    ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                    ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                       CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                     LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                     GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                          AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                     GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                     AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                               ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                     CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                      ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6.58e-151
1564.00
100.00%
100.00%
100.00%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5450
302
0
                                                                                                                                                                                      1077
                                                                                                                                                                                                                                      1017
                                      1257
                                                               240
                                                                                                                                     1137
                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                              160
                                                                                                                                                                                                                                                                                      957
                                                                                                                                                                                                                                                                                                               140
                                                                                                                                                                                                                                                                                                                                        897
                                                                                                                                                                                                                                                                                                                                                                                      837
                                                                                                                                                                                                                                                                                                                                                                                                               100
                                                                                                                                                                                                                                                                                                                                                                                                                                                             80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       597
               260
                                                                                                             220
                                                                                                                                                              200
                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                       777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20
```

```
RESULT 3
AX260342
LOCUS
DEFINITION
ACCESSION
VERSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                         밁
                                                    S
                                                                                밁
                                                                                                     S
                                                                                                                                     밁
                                                                                                                                                             δ
                                                                                                                                                                                           밁
                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                                                                                                                                        Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
á
                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                               Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                          No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1258 CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   281
                            301
                                                                                   241
                                                                                                                                        181
                                                                                                                                                                                             121
  121
                                                      101
                                                                                                           81
                                                                                                                                                                13
                                                                                                                                                                                                                      41
                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                           21
                                                                                                                                                                                                                                                                                                                      1 MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Patent: WO 0173059-A 3 04-OCT-2001; Millennium Pharmaceuticals, Inc. (U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AX260342 1998 bp
Sequence 3 from Patent WO0173059.
AX260342
AX260342.1 GI:16509305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            therefor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Meyers,R.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            38692 and 21117: dual specificity phosphatase molecules and
                                                                                                                                                                                                              HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
  LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGACT 1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                         AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                    CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                      GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                      AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                             CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                        ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                    AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                        3.19e-150
1552.00
99.67%
99.34%
99.34%
99.23%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .1998
                                                                                                                                                                                                                                                                                                                                                             x AX260342
                                                                                                                                                                                                                                                                                                                                                                                     Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (us)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA
                                                                                                                                                                                                                                                                                                                                                              (1-1998)
                                                                                                                                                                                                                                                                                                                                                                                        0011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PAT 26-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1377
                               360
                                                         120
                                                                                    300
                                                                                                               100
                                                                                                                                        240
                                                                                                                                                                   80
                                                                                                                                                                                              180
                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                              40
                                                                                                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1317
```

Mammalia; Eutheria; Primates; Catarrhini;		
Homo sapiens Eukaryota; Metazoa; Chordata; Craniata;	ORGANISM	Qy 1 MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu 20
	KEYWORDS SOURCE	US-10-029-345A-109_COPY_1_302 (1-302) x AX921917 (1-2071)
AX099933 AX099933 AX099933 AX099933.1 AX099933.1 AX099933.1 AX099933.1 AX099933.1 AX099933.1	RESULT 5 AX099933 LOCUS DEFINITION ACCESSION VERSION	Pred. No.: 3.34e-150 Length: 2071 Score: 1552.00 Matches: 300 Percent Similarity: 99.57% Conservative: 1 Best Local Similarity: 99.24% Mismatches: 1 Query Match: 99.23% Indels: 0 DB: 6 Gaps: 0
961 CAGACT 966	Дb	Alignment Scores:
301 GlnThr 302	QV	xref="taxon:9606"
281 IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspi	Db Qy	rce 1. /org/mol
841 AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTY	Dъ	JOURNAL Patent: WO 02068649-A 257 06-SEP-2002; Curagen Corporation (195) FEATURES (CORPORATION 195)
		utheria; Primates; Catarrhini; Hominidae; Homo.
241 LeuValHisCysLeuAlaGlyIleSerArgSerAlaThr	γς 4g	ORGANISM Homo sapiens (human) ORGANISM Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
721 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCA		AX92
ProTrpLeuAspLysSerValAspPheIleGluLysAl		DEFINITION Sequence 257 from Patent WOO2068649. ACCESSION AX921917
201 IleProGluSerHisPheLeuArgValProValAsnAsp	Db Qy	
601 CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAAT	Db	Db 901 CAGACT 906
181 GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyr	γ	
161 ArgIIeLeuproAsnLeuTyrLeuGlyCysGlnArgAsp	D 69	Qy 281 IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn 300
ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACC	Db	
141 ThrLeuValProThrCysIleSerGlnProCysLeuPro	Qy	sArqProThr 28
121 LeuAlaGlyGlyPheAlaGluPheSerArgCysPhePro	dg Qy	ดี—ห้ ว 2
101 AspCysPheLeuThrValLeuLeuGlyLysLeuGluLys	Qy Db	Qy 221 ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal 240
301 TGCAGTCAGAAGGTTGTAGTTTTACGATCAAAGCTCCCA	Db	TTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG 6
81 CysSerGlnLysValValValTyrAspGlnSerSerGlr	γQ	eCysGluLysIleLeu 2
61 AspLysValLeuIleThrGluLeuIleGlnHisSerala	Db Qy	
181 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCT	Db	Db 481 CGAATTCTTCCCAATCTTTATCTTGCCTGCCAGCGAGATGTCCTCAACAAGGACCTGATG 540
41 Histletenglinlerlegentragergect	Q (421
SerGlyThrGluLysValLeuLeuIleAspSerArgP	P &	141 ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
61 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGA	Db	Db 361 CTTGCAGGTGTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC 420

RESULT 5 AX099933 LOCUS DEFINITION ACCESSION VERSION KEYWORDS SOURCE ORGANISM	Ο _γ 3	9 40	•				? B &	} B 9) Db Qy	ם אם א	Db Qy	ДЪ	D Qy	Db Qy	g) b
AX099933 Sequence 15 from Patent WC0120004. Sequence 15 from Patent WC0120004. AX099933 AX099933.1 GI:13538943 . Homo sapiens (human) Homo sapiens Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.	301 GlnThr 302 361 CAGACT 966	201 11898FF70ASRPRAASRPRELEUGIYGIRLEULGUASpTYrGluLysLy8IleLy8Asm 300 	61 LysargMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArg	41 LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrI. 	221 ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVa1 240 	101 11eProG.LUSerHisPheLeuArgValProValAsnAspSerPheCysGluLysI	81 GINGINASRGJAFIGGIATVEVALLENASRALASETTYETH	61 ArgileLeuProAssiLeuTyrLeuGlyCysGlnA	41 ThrLeuVa	21 Leur 21 CTTG	01 AspCysPhe	81 CysSerclnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100 	1 AspLysValLeuIle 1 GACAAAGTGTTAATT	41 HisileLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln 60 		ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGG

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                     ર્
                                                                                                                                                            밁
                                                                                                                                                                                     S
                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                      중 유
                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                           ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ঠ
                                           S
                                                                    밁
                                                                                      ð
                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score:
                   문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bource
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1
Yue,H., Tang,Y.T., Bandman, ..., ....
Azimzai,Y. and Lu,D.A.
Protein phosphatase and kinase proteins
Patent: WO 0120004-A 15 22-MAR-2001;
Incyte Genomics, Inc. (US)
Location/Qualifiers
                                                                                                                                                                                                                      445
                                                                                                                                                                                                                                                                     385
                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                      205
 241
                                                                                              201
                                                                                                                                             181
                                                                                                                                                                                            161
                                                                                                                                                                                                                                             141
                                                                                                                                                                                                                                                                                                                                            101
                                                                                                                                                                                                                                                                                                                                                                      265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    145 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                            81
                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   41 HisīleLeuGluAlaīleAsnīleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                   ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                   LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                      ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                      IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                    ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                     CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                     GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                  AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                     CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                      GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                    AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                       CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Homo sapiens"
/mol_type="unassigned DNA"
/db xrefs"taxon:9606"
/note="Incyte ID NO: 1234795CB1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3.44e-150
1552.00
99.67%
99.34%
99.23%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bandman, O., Hillman, J.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   x AX099933 (1-2118)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Baughn, M.R.,
                                                240
                                                                         684
                                                                                                                                              200
                                                                                                                                                                       564
                                                                                                                                                                                              180
                                                                                                                                                                                                                                              160
                                                                                                                                                                                                                                                                                             140
                                                                                                                                                                                                                                                                                                                     384
                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                      324
                                                                                                                                                                                                                                                                                                                                                                                              100
                                                                                                                                                                                                                                                                                                                                                                                                                      264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     84
                        744
                                                                                                                       624
                                                                                                                                                                                                                      504
                                                                                                                                                                                                                                                                      444
                                                                                                                                                                                                                                                                                                                                                                                                                                               80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    204
```

```
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 6
AX180875
LOCUS
DEFINITION
ACCESSION
VERSION
 문. 왕
                                        유
                                                                            문
                                                                                                 S
                                                                                                                          밁
                                                                                                                                         δ
                                                                                                                                                                  밁
                                                                                                                                                                                    S
                                                                                                                                                                                                             밁
                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                  US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                          Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      吊
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 문
                                                                                                                                                                                                                                                                                                                     Score:
                                                                                                                                                                                                                                                                                                                                                             ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                          Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                               No . :
                                                                                                                                                                                                              538
                    101
                                                                                                                                                                    598
                                                                                                                                                                                                                                                                                                                                          Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  745
                                                                                 718
                                                                                                                          658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    281
                                                            81
                                                                                                     61
                                                                                                                                               41
                                                                                                                                                                                        21
                                                                                                                                                                                                                                  μ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens (human)
Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; I
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AX180875
Sequence 2 from Patent |
AX180875
AX180875.1 GI:15132703
                                                                                                                                                                                                                                                                                                                                                                                                                                    Hill,R.J. and Flanagan,P.
Mammalian protein phosphatases
Patent: WO 0146394-A 2 28-JUN-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                            Sugen,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Plowman, G.D., Martinez, R., Whyte, D.,
AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu 120
                                                                                                                                                                  SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                             ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                          MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp|
                                                                                                                                       HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                           CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAAGAAAAAAAGACCTACT
                                                                                                                                                                                                                                                                                                                                                                                                                             Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      930
                                                                                                                                                                                                                                                                                                                                                                     /organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
1. .2732
                                                                                                                                                                                                                                                                           4.75e-150
1552.00
99.67%
99.34%
99.34%
6
                                                                                                                                                                                                                                                                                                                                                                                                                             (SD)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2732 bp
WO0146394.
                                                                                                                                                                                                                                                      x AX180875
                                                                                                                                                                                                                                                                                  Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA
                                                                                                                                                                                                                                                      (1-2732)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Manning, G.,
                                                                                                                                                                                                                                                                             001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sudarsanam,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PAT 06-AUG-2001
                                           837
                                                              100
                                                                                                       80
                                                                                                                            717
                                                                                                                                                 60
                                                                                                                                                                    657
                                                                                                                                                                                          40
                                                                                                                                                                                                               597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  804
```

907 AAGAGGATGGAC	EGGQKSE / Db	The state of the s	-3
261 LysargMetAsp 	DSFCEK YRFVKE	KILEWIYLGCORTVILNEEMQONGIGYVILNASNTCEKEDFI PESHFILRVPVN ILFWILDKS UPFI EKAKASNGCUL VICLAGII SRSATI ALAXI MKRMINSLDEZ KRPTI SPRENFI GOLI LYVEKKI UNOCA CORGONI TOTTI TOTTI KANDINGSLDEZ	
241 LeuValHisCys 	TSHILE OY ANIGPT Db	/translation="MAHEMIGTQIVTERLYALLESGTEKVLLIDSRPFVEYNTSHILE AININCSKLMKRRLQQDKVLITELIQHSAKHKVDIDCSQKVVVVDQSSQDVASLSSDC FLTVLLGKLEKSFNSVHLLAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPT	
787 CCGTGGTTGGA	Db	<pre>/db xref="GI:16605916" /db xref="REMTREMBIL:CAD10545"</pre>	
221 ProTrpLeuAs;	VQ.	/	
727	Db	CDS 1277. 22124	Ω
201 IleProGluSe	Qy	/organism="Homo sapiens" /mol type="unassigned DNA" /ab wrof " " " " " " " " " " " " " " " " " " "	
667 CAGCAGAATGG	dα	rce 1	80
' 181 GlnGlnAsnGl	Qy	MERCK PATENT GmbH (DB)	PRATIDES
607	מם	P K	TITLE
/ 161 ArgīleLeuPr	Qy	Mammalla; Eutherla; Primates; Catarrhini; Hominidae;	REFERENCE
547	tomi:	Eukaryota; Metazoa; Chordata;	O.C.
/ 141 ThrLeuValPr	Qy	Homo	SOURCE
o 487 CTTGCAGGTGC	дъ	,	VERSION
y 121 LeuAlaGlyGl	02-NOV-2001 QY	N Sequence 1 from Patent WO0177340.	DEFINITIO
427	מם	AY270161	AX278461
y 101 AspCysPhele			100000
367	da d		₹ \$
Qy 81 CysserGlnL	1437	2 2	? ;
Db 307 GACAAAGTGT	300	eser	3 5
Qy 61 AspLysValL	1377	: ≵	?
Db 247 CACATTTTGG	280	LysAr	₹ 5
Qy 41 HisIleLeuG	1317		? {
Db 187 AGTGGAACGG	260	241 LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet	₹ 5
Qy 21 SerGlyThrG	1257		? 8
Db 127 ATGGCCCATG	240	Pro	3 5
Qy 1 MetAlaHisG	1197	ATC) 5
US-10-029-345A-109_COPY_	220		ş 5
Query Match:	1137) B
Percent Similarity:		181 GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe	γQ
Alignment Scores: Pred. No.:	Ile 180 ::: ATG 1077		DЪ
ORIGIN			δ
YS/ RRS		ACTCTAGTCC	당 5
ST	ATCC 957		ş
TH			당 :
	-	121 LeuAlaGlvGlvPheAlaGluPheGernronghannania	Ş

TPLSPPCADSATSEAAGQRPVHPASVPSVPSVQPSILEDSPLVQALSGLHLSADRLED SNKLKRSFSLDIKSVSYSASMAASLHGFSSSEDALEYYKPSTTLDGTNKLCQFSPVQE LSEQTPETS PDKEEAS I PKKLQTARPSDSQOKKLHSVRTSSGTAQRSLLSPLHRSGS VEDNYHTSFLFGLSTQOHLTKSAGLGLKGWHSDILAPQTSTPSLTSSWYFATESSHF YSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRRQKPSDRADSRRSWHEESPFEKQFK RRSCQMEFGESIMSENRSREELGKVGSQSSFSGSMEIIEVS"

roAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 3GGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC 31yPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer **AAGGTTGTAGTTTĀCGĀTCĀĀĀGCTCCCĀĀGĀTGTTGCCTCTCTCTCTTCĀ** LeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp 80 | GluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer acai girci titaga i gaag citta caga i ti girgaa agaaaaaaa aga ccta ct a CAAAT CAGTAGATTT CATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT \$PLY8SerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal ĠĠĀTTĠĠŦŦĀŦĠŦĠŦŦĀĀĀŦĠĊĊĀĠĊĀĀŦĀĊĊŦĠŤĊĊĀĀĀĠĊĊŦĠĀĊŦŦŦ eracergearrrereageerracergarrgeeaacarrggeeaace roThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr TTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT (_1_302 (1-302) x AX278461 (1-3059) \\SV\$\ValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100 5.48e-150 1552.00 99.67% 99.34% 99.33% |\frac{1\fint}}{1\frac{1\frac{1\fint}{1\frac{1\fint}{1\frac{1\fint}{1\frac{1\fint}{1\frac{1\fint}{1\frac{1\fint}{1\frac{1\frac{1\fint}{1\frac{1\frac{1\frac{1\frac{1\fint}{1\frac{1\frac{1\fint}{1\frac{1\frac{1\fint}{1\frac{1\frac{1\fint}{1\frac{1\frac{1\fint}{1\frac{1\frac{1\fint}{1\frac{1\frac{1\fint}{1\frac{1\fint}{1\frac{1\fint}{1\frac{1\fint}{1\frac{1\fint}{1\frac{1\fint}{1\frac{1\fint}{1\frac{1\frac{1\fint}{1\frac{1\frac{1\fint}{1\frac{1\frac{1\fint}{1\frac{1\frac{1\frac{1\frac{1\fint}{1\frac{1\frac{1\frac{1\frac{1\fint}{1\frac{1\fint}{1\frac{1\fint}{1\frac{1\fint}{1\frac{1\fint}{1\frac{1\fint}{1\frac{1\fin Length:
Matches:
Conservative:
Mismatches:
Indels: Gaps: 3059 300 1 1 0 966 906 260 846 240 786 220 200 666 726 180 909 160 546 140 486 120 426 366 306 60 246 40 186 20

```
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 8
AX405700
LOCUS
                                                                                                                             S
                                                                                                                                                                                                    Best Local S
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
ACCESSION
                 ঠ
                                                                       ક
                                                                                                밁
                                                                                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         吊
                                                   밁
                                                                                                                                                           US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                               Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
Bource
                                                                                                                                                                                                                                 Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1027
                                                   219
279
                                                                                                         159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   281
                        41
                                                                                                                                                                                                                    Similarity:
                                                                              21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AX405700
Sequence
AX405700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tang, Y.T., Liu, C., Zhou, P., Asundi, V., Zhang, J., Zhao, Q.A., Ren, F.,
Xue, A.J., Yang, Y., Wehrman, T. and Drmanac, R.T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Novel nucleic acids and polypeptides
Patent: WO 0222660-A 115 21-MAR-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AX405700.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hi8IleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                    SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                        ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                       MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGACT 1032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlnThr 302
CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sapiens
                                                                                                                                                                                                                                                                                                          /proteIn_id="GLD34807.1"
//bb_xref="G1:21438840"
//db_xref="G1:21438840"
//db_xref="G1:21438840"
//db_xref="G1:21438840"
//db_xref="G1:21438840"
//db_xref="G1:21438840"
//db_xref="G1:21438840"
//db_xref="G1:21438840"
//db_xref="G1:21438840"
//db_xref="G1:21438840"
//db_xref="MAHEMIGTG1VTERLVALLESGTEKVLLIDSRPFVEYNTSHILE
//ramblation="MAHEMIGTG1VTVERLVALLESGTEKVLVIDGSSQDVASIASSDC
PLTVLLGKLEKSFNSVHLLAGGFFAEFSRCFPGLCEGKSTLVPTCIGQPCLPVANIGPT
RILPMLYLGCCRDVLINEELMQONGIGYVLNASNTCPKDPPIPSCHSQPCLPVANIGPT
RILPMLYLGCCRDVLINEELMQONGIGYVLNASNTCPKDPPIPSCHSPVPAVSEGGCKSE
ILPMLDKSVDPIEKAKASNGCVLVHCLAGISRSATIAIAYIMKRMDMSLDBAYRPVKE
KRPT159NPNPIGG1LDYEKKIKQTGASGFKSKLKLLHEKPNEPVPAVSEGGCKSE
KRPT159NPNPIGG1LDYEKKIKQTGASGFKSKLKLLHEKPNEPVPAVSEGGCKSE
KRPT159NPNPIGG1LDYEKKIKQTGASGFKSKLKLLHEKPNEPVPAVSEGGCKSE
SNKLKRSFSLDIKSVSSASMAASLHGFSSSEDALEYYKPSTTLDGTNKLCQFSPVQE
LSEQTPETSPDKEEASITFKKLQTARPSDSQSKKLHSVRTSSGGTAQRSLLSPLHRSGS
VEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWHSDILAPQTSTPSLTSSMYFATESSHF
YSASAIYGGSASYSAYSCSQLPTCGDQVYSVRRRQKPSDRADSRRSWHEESPFEKQPK
RRSCQMEFGESIMSENRSREELGKVGSQSSFSGSMEIIEVS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3104 bp
115 from Patent WO0222660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    note="unnamed protein product"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          codon_start=1
                                                                                                                                                                                                   5.59e-150
1552.00
99.67%
99.34%
99.23%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GI:21438839
                                                                                                                                                            x AX405700 (1-3104)
                                                                                                                                                                                                    Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                      Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DNA
                                                                                                                                                                                         0011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14-JUN-2002
                        60
                                                                              40
                                                                                                         218
                                                   278
                                                                                                                                   20
                                                                                                                                                                                                                               RESULT 9
BC042101
LOCUS
                                                                                                                                                            ACCESSION
VERSION
KEYWORDS
                                                                                                                                   SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                         유 성
                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      문
                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                    DEFINITION
                                                                              AUTHORS
                                                                                                                                                                                                                                                                                      1059
                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                       879
                                                                                                                                                                                                                                                                                                                                          999
                                                                                                                                                                                                                                                                                                                                                                      281
                                                                                                                                                                                                                                                                                                                                                                                                 939
                                                                                                                                                                                                                                                                                                                                                                                                                          261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           81
                                                                                                                                                               ă
                                                                                                                                                                                                                                 BC042101
                                                                                                                                                                                                                                                                                      CAGACT
```

```
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 3384)

Strausberg,R.L., Feingold,E.A., Grouse,L.H., Derge,J.G., Klausner,R.D., Collins,F.S., Wagner,L., Shenmen,C.M., Schuler,G.D. Altschul,S.F., Zeeberg,B., Buetow,K.H., Schaefer,C.F., Bhat,N.K., Hopkins,R.F., Jordan,H., Moore,T., Max,S.I., Wang,J., Hsieh,F., Diatchenko,L., Marusina,K., Farmer,A.A., Rubin,G.M., Hong,L., Stapleton,M., Soares,M.B., Bonaldo,M.F., Casavant,T.L., Scheetz,T.E., Brownstein,M.J., Usdin,T.B., Toshiyuki,S., Carninci,P., Prange,C., Raha,S.S., Loquellano,N.A., Peters,G.J.,
                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
MGC:50665 IMP
                                                                                                                                                                                                                                                                                                                                                BC042101
BC042101.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATATCTCCCAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3284 bp
ens dual specificity phosp
IMAGE:4400399), complete
                                                                                                                                                                                                                                                                                                                                                  GI:27469788
                                                                                                                                                                                                                                                                                                  (human)
                                                                                                                                                                                                                                                                                                                                                                                              bp mRNA
/ phosphatase
nplete cds.
                                                                                                                                                                                                                                                                                                                                                                                                                         16,
                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
                                                                                                                                                                                                                                                                                                                                                                                                                         PRI 07-OCT-2003
(cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   80
```

0

Conservative: Mismatches: Indels:

000

Length: Matches:

```
REMARK
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Abramson,R.D., Mullahy,S.J., Bosak,S.A., McEwan,P.J.,
McKernan,K.J., Malek,J.A., Gunaratne,P.H., Richards,S.,
Worley,K.C., Hale,S., Garcia,A.M., Gay,L.J., Hulyk,S.W.,
Villalon,D.K., Muzny,D.M., Sodergren,E.J., Lu,X., Gibbs,R.A.,
Fahey,J., Helton,E., Ketteman,M., Madan,A., Rodrigues,S.,
Sanchez,A., Whiting,M., Madan,A., Young,A.C., Shevchenko,Y.,
Bouffard,G.G., Blakesley,R.W., Touchman,J.W., Green,E.D.,
Dickson,M.C., Rodriguez,A.C., Grimwood,J., Schmutz,J., Myers,R.M.,
Dickson,M.C., Rodriguez,A.C., Grimwood,J., Schmutz,J., Myers,R.M.,
Butterfield,Y.S., Krzywinski,M.I., Skalska,U., Smailus,D.E.,
Schnerch,A., Schein,J.E., Jones,S.J. and Marra,M.A.
Generation and initial analysis of more than 15,000 full-length
human and mouse cDNA sequences
1L Proc. Natl. Acad. Sci. U.S.A. 99 (26), 16899-16903 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Clone distribution: MGC clone distribution information can be for through the I.M.A.G.B. Consortium/LIMU at: http://image.llnl.gov Series: IRAK Plate: 88 Row: a Column: 17
This clone was selected for full length sequencing because it passed the following selection criteria: GenomeScan gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NISA
NIH-MGC Project URL: http://n
Contact: MGC help desk
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Sequencing Group at the Stanford Human Center, Stanford University School of Medicine, Stanford,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (23-DEC-2002) National Institutes of Health, Mammalian Gene Collection (MGC), Cancer Genomics Office, National Cancer Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Dickson, M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Strausberg, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .2477932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (bases 1 to 3284)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     site:
/product="pusp16 protein"
/product="pusp16 protein"
/protein id="AAH42101.1"
/db_xref="gi:27469789"
/db_xref="gi:27469789"
/db_xref="gi:27469789"
/db_xref="gi:27469789"
/db_xref="locusII:80824"
/translation="MAHEMIGTQI VTERLVALLESGTEKVLLIDSRPFVEYNTSHILE
AININCSKLMKRRLQQDKVLITELIQHSAKHKVDIDCSQKVVVVDQSSQDVASLSSDC
FLTVLLGKLEKSFNSVHLLAGGFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPT
RILPNLYLGCQRDVLNKELMQQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEK
ILPNLYLGCQRDVLNKELMQQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEK
ILPNLYLGCQRDVLNKELMQQNGIGYVLNASNTCPKPDFIPESHFLRVPVNDSFCEK
ILPNLYLGCQRDVLNKELMQQNGIGYVLNASNTCPKPDFIPESHFLRVDNSLDEAYRFVE
KRPT1SPNENFLGGLLDYEKKILKNQTGASGFKSKLLHLEKPNEPVPAVSEGQKSE
TPLSPPCADSATSEAAGQRPVHPASVPSVQPSLLEDSPLVQALSGLHLSADRLEDSNK
IKRSFSLDIKSVSYSASNAASLHGFSSSEDALEYYKPSTTLOGTNKLCQFSPVQELSE
QTPETSPDKEEASIPKKLQTARAPSDSQKRLHSVRTSSSGTAQRSLLSPLRRSGSVED
NYHTSPLFGLSTSQQHLTKSAGIGLKGMHSDILAPQTSTPSLTSSWYFATESSHFYSA
SAIYGGSASYSAYSCSQLPTCGDQVYSVRRRQKPSDRADSRRSWHEESPPEKQFKRRS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /gene="pUSP16"
/note="synonyms: KIAA1700, MKP-7,
/db xrefs"LocusID:80824"
/db_xrefs"MIM:607175"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /clone_lib="NIH_M(
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /tissue_type="Duodenum, adenocarcinoma"
/clone_lib="NIH_MGC_88"
                                                                                                                                                                                                                                                                                                                                                                                                                 codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          http://www-shgc.stanford.edu
(Dickson, Mark) mcd@paxil.stanford.edu
M., Schmutz, J., Grimwood, J., Rodriquez,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          note="Vector: pCMV-SPORT6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  clone="MGC:50665 IMAGE:4400399"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            mol_type="mRNA"
db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  http://mgc.nci.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      n Genome
, CA 943
                                                                                    뮍
                                                                                                                        δ
                                                                                                                                                                                            망
                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-029-345A-109_COPY_1_302 (1-302) x BC042101 (1-3284)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                              932
                                                                                                                                                                                                                                                                                                         872
                                                                                                                                                                                                                                                                                                                                                                                                                 812
                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
  LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                     ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                             IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                           GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CysSerGlnLysValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AspLysValleulleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGGCCCATGAGATGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACTOTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                         CAGCAGAATGGGATTGGTTAATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                    CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCCGGCCATTTGTGGAAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="DSPc; Region: Dual specificity phosphatase, catalytic domain. Ser/Thr and Tyr protein phosphatases. The enzyme's tertiary fold is highly similar to that of tyrosine-specific phosphatases, except for a 'recognition'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       region"
/db_xref="CDD:pfam00782"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /db_xref="CDD:smart00450"
803. .1222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CQMEFGES IMSENRSREELGKVGSQSSFSGSMEIIEVS'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            note="RHOD; Region: Rhodanese Homology Domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6e-150
1552.00
99.67%
99.34%
99.23%
```

240

991 220 931 200 180 811 160 751 140 691 120 631 571 80 60 451

871

260

```
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 10
AX441210
LOCUS
                                                                                                                                                                             S
                                                                                                                                                                                                     밁
                                                                                                                                                                                                                      ક
                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                       Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                         ક
                                                                                                                  片
                                                                                                                                   S
                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                     US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                                                                         Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                 밁
                                                  ð
                                                                          문
                                                                                                                                                                                                                                                                                                                                                                    Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                            Alignment
                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                           Bource
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             281
                                                                                                                                                                                                                                                 562
                                                                                                                                                             682
                                                                                                                                                                                                       622
             121
                                                     101
                                                                           802
                                                                                                                    742
                                                                                              18
                                                                                                                                        61
                                                                                                                                                                                 4
                                                                                                                                                                                                                           21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AX441210
Sequence 1: 1
AX441210
AX441210.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Luche, R.M. and Wei, B.
Dsp-16 dual-specificity phosphatase
Patent: WO 0226997-A 1 04-APR-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (human)
                                                                                                                                                                                                                                            ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                        Hi8IleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG 1111
LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                  SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                           MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                           AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                      CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                    GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                             CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                       AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGACT 1237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GlnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    302
                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                           1. .3496
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            from
                                                                                                                                                                                                                                                                                                              6.5e-150
1552.00
99.67%
99.34%
99.23%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GI:21665766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3496 bp
Patent WO0226997.
                                                                                                                                                                                                                                                                                         x AX441210 (1-3496)
                                                                                                                                                                                                                                                                                                                        Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                       Length:
Matches:
                                                                                                                                                                                                                                                                                                            Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DNA
                                                                                                                                                                                                                                                                                                               00++
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PAT 28-JUN-2002
                                                      120
                                                                                               100
                                                                                                                                                                                                                                                621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       280
             140
                                  921
                                                                          861
                                                                                                                    801
                                                                                                                                        80
                                                                                                                                                            741
                                                                                                                                                                                  60
                                                                                                                                                                                                       681
                                                                                                                                                                                                                            40
                                                                                                                                                            JOURNAL
MEDLINE
PUBMED
REFERENCE
AUTHORS
                                                                                                                                                                                                                          REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                        RESULT 11
AB052156
LOCUS
DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                               SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                   VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                     FEATURES
                                                                                                                                        TITLE
JOURNAL
             gene
                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                        1462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1102
                                                                                                                                                                                                                                                                                                                                                                                                                                 1402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1042
                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                     281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            922
                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                         Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                         Homo sapiens MKP-7 mRNA
AB052156
                                                                                                                                                                                                                                                          Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                               AB052156.1
                                                                                                 Fax:81-11-707-6839)
                                                                                                                                                                                                                                                                                                                                              AB052156
                                                                                                                                                                                             21486429
                                                                                                                                                                                 1489891
                                                                                                                                                                                                                                                                                                                                                                                                            GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                        CAGACT
                                                                                                                                                                                                                                                                                                                                                                                        1467
                                /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/chromosome="12"
              /cell_line="Jurkat"
1. .3521
                                                                                    location/Qualifiers
                                                                                                                                                                                                                                                                                                              GI:13548676
```

```
2 (bases 1 to 3521)
Masuda, K., Shima, H. and Kikuchi, K.
Direct Submission
Submitted (05-DEC-2000) Kouhei Masuda, Institute for Genetic Medicine, Division of Biochemical Oncology and Immunology; ki kital5-jou nishi7-tyoume, Sapporo, Hokkaido 060-0815, Japan (B-mail:kou@jmm.hokudai.ac.jp, Tel:81-11-706-5536,
                                                                                                                                                                                                                                                 Masuda, K., Shima, H., Watanabe, M. and Kikuchi, K. MKP-7, a novel mitogen-activated protein kinase functions as a shuttle protein J. Biol. Chem. 276 (42), 39002-39011 (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIlyeIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LysārgMetāspMetSerLeuāspGluālaTyrārgPheValLysGluLysārgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGCAGAATGGGATTGGTTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACTICTAGTICICTACCTGCATTTICTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                   Chordata; Craniata; Vertebrata; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3521 bp mRNA line for MAPK phosphatase-7,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            complete
                                                                                                                                                                                                                                                                                                                                                                                                            Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRI 18-OCT-2001
                                                                  kita-ku
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                200
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                             S
                                                                    밁
                                                                                                   δ
                                                                                                                                            밁
                                                                                                                                                                     S
                                                                                                                                                                                                          뮹
                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                              닭
                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     No.:
1164
                                                                      1104
                                                                                                                                              1044
                                                                                                         181
                                                                                                                                                                                                                        984
                                                                                                                                                                                                                                                                                                924
                                                                                                                                                                                                                                                                                                                                                                        864
                                                                                                                                                                                                                                                                                                                                                                                                                                                804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                684
                                                                                                                                                                                   161
                                                                                                                                                                                                                                                         141
                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                           101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        624 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                564 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ۲
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HisīleLeuGluAlaīleAsnīleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                             GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                             ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                         LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                           AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                   IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                      CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                              CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                 ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180
                                                                                                                                                                                                                        ACTOTAGTOCOTACOTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                  CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                      GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                /gene="MKP-7"
/codon_start=1
/codon_start=1
/product="MAPK phosphatase-7"
/product="MAPK phosphatase-7"
/protein_id="BAB40814.1"
/protein_id="BAB40814.1"
/db_xref="GI:13548677"
/translation="MAHEMIGTQIVTERLVALLESGTEKVLLIDSRPFVEYNTSHILE
AININGSKLMKRRLQDKVLITELIQHSAKHKVDIDCSGKVVVVDQSSQDVASLSSDC
FLTVLLGKLEKSFNSVHLLAGGFAEFSRCFFGLCEGKSTLVFTCISQPCLPVANIGFT
RILPNLYLGCQBDVLNKELMQQNGIGYVLNASMTCPKPDFIPESHFLRVFVNDSFCEK
ILPWLDKSVDFIEKAKASNGCVLVHCLAGGISRSATIAIAYIMKRMDSLDEAYRFVKE
KRPTISSNFNFLGQLLDYEKXIKNGTGASGFKSKLKLLHLEKPNEPVPAVSEGGQKSE
TPLSPPCADSATSEAAGGRPVHPASVPSVPSVQPSLLEDSFLVQALSGLHLSADRLED
SNKLKRSFSLDIKSVSYSASMAASLHGFSSSEDALEYYKPSTTLDGTNKLCQFSPVQE
LSEQTPETSPDKEEASIFKKLQTARPSDSQSKRLHSVRTSSSGTAARSLASPLHRSGS
VEDNYHTSFLFGLSTSQQHLTKSAGLGLKGWHSDILAPQTSTPSLTSSWYFATESSHF
YSASATYGGSASYSAYSCSQLFTCGDQVYSVRRRQKFSDRADSRRSWHEESSFEKQFK
YSASATYGGSASYSAYSCSQLFTCGDQVYSVRRRQKFSTTPSLTSSWTFATESSHF
YSASATYGGSASYSAYSCSQLFTCGDQVYSVRRRQKFSDRADSRRSWHEESSFEKQFK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RRSCQMEFGESIMSENRSREELGKVGSQSSFSGSMEIIEVS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6.55e-150
1552.00
99.67%
99.34%
99.23%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .2561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          x AB052156 (1-3521)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0011
                                   220
                                                                                                           200
                                                                                                                                                  1103
                                                                                                                                                                                                                        1043
                                                                                                                                                                                                                                                             160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    623
 1223
                                                                        1163
                                                                                                                                                                                                                                                                                                  983
                                                                                                                                                                                                                                                                                                                                     140
                                                                                                                                                                                                                                                                                                                                                                        923
                                                                                                                                                                                                                                                                                                                                                                                                                                                    863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            683
```

Percent Similarity:
Best Local Similarity:
Query Match:

6.61e-150 1552.00 99.67% 99.34% 99.23%

Length:
Matches:
Conservative:
Mismatches:
Indels:

Pred. No.: Score:

US-10-029-345A-109_COPY_1_302 (1-302)

x AX260340 (1-3544)

```
RESULT 12
AX260340
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ϋ́S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                         CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 221
Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AX260340
Sequence
AX260340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Patent: WO 0173059-A 1 04-OCT-2001;
Millennium Pharmaceuticals, Inc. (U
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Meyers, R.A. 38692 and 21117: dual specificity phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AX260340.1 GI:16509303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           therefor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGACT 1469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             / translation="MAHEMIGOL TEELLVALLESGTEKVLLIDSRPFVEYNTSHILE AININCSKLMKERLODKVLLTELIOSISAKHKVDIDCSGKVVVVVDQSSQDVASLSSDC FLTVLLGKLEKSFNSVHLLAGGFFAEFSRCFPGLCEGKSTLVPTCISQPCLPVANIGPT RILPHYLJGCQCRDVLMKELMQQMGIGTVLNASNTCPKDDFIPESHFLRVPVNDSFCEK ILPHLDKSVDFIEKAKASNGCVLVHCLAGISRSATIAIAYINKEMDMSLDEAYRFVKE KRPTISDNFNFLGQLLDYEKKIKQTGASGFKSKLKLLHLEKPNEPVPAVSEGGQKSE KRPTISDNFNFLGQLLDYEKKIKQTGASGFKSKLKLLHLEKPNEPVPAVSEGGQKSE KRPTISDNFNFLGGALDYEKKIKQTGASGFKSKLKLLHLEKPNEPVPAVSEGGQKSE SNKLKRSFSLDIKSVSYSAAMASLHGFSSSEDALEYYKPSTTLDGTNKLCQFSPVQE SNKLKRSFSLDIKSVSYSAAMASLHGFSSSEDALEYYKPSTTLDGTNKLCQFSPVQE LSEQTYPETSPDKEEASIFKKLQTARPSDSQSKKLHSVRTSSGTTARSKILSPLHRSGS VEDNYHTSFLFGLSTSQQHLTKSAGILKKGMSDILAPQTSTBSLTSSWFATESSHF YSASAIYGGSASYSAYSCSQLFTCGDQVYSVRRRQKPSDRADSRRSWHEESPFEKQFK RRSCQMEFGESIMSENRSREELGKVGSQSSFSGSMEIIEVS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3544 bp
1 from Patent WO0173059.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 302
                                                                                                                                                                                                                                                                               /protein_id="CAD10218.1"
/db_xref="GI:16509304"
/db_xref="REMTREMBL:CAD10218"
                                                                                                                                                                                                                                                                                                                                                                                        /mol_type="unassigned
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                        codon start=
                                                                                                                                                                                                                                                                                                                                                       'note="unnamed protein product"
                                                                                                                                                                                                                                                                                                                                                                                                                               organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                         .2586
                                                                                                                                                                                                                                                                                                                                                                                                                DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (SD)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 molecules and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              260
```

ક 밁

```
망
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                      RESULT 13
AF506796
LOCUS
                                                                                      DEFINITION
                                                                                                                                                                            1489
                                                                                                                                                                                                                                                                                                                                                                                       1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1069
                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              81 CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .
Homo
                                  AF506796.1 GI:25573087
                                                     AF506796
                                                                                    Homo sapiens dual specificity
                                                                                                        AF506796
                                                                                                                                                                            CAGACT
                                                                                                                                                                                                             GlnThr
                                                                                                                                                                                                                                              ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                    IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                        LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                          LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACTOTAGTOCOTACOTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           H18IleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MetAlaHisGluMetIleGlyThrGlnTleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                    CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sapiens
                                                                                                                                                                            1494
                                                                                                                                                                                                             302
                                                                                                      3566 bp
                                                                                    pp mRNA linear PRI 30-OCT-2003
phosphatase 16 (DUSP16) mRNA,
                                                                                                                                                                                                                                                                                                                                                                                      1368
                                                                                                                                                                                                                                                                                                                                                                                                                                                           1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1008
                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                    1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 648
                                                                                                                                                                                                                                                                                                                                                   280
                                                                                                                                                                                                                                                                                                                                                                                                                        260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    80
```

밁 S 밁 S 밁 중 유 S 밁 Ś 밁 δ 밁 ঠ 밁 δ 밁 ঠ 밁 S 밁 ঠ В S 밁 δ 밁 ঠ

```
PUBMED
REFERENCE
AUTHORS
TITLE
                                   S
                                                                                     밁
                                                                                                                           S
                                                                                                                                                                        밁
                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                           문
                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                           Query
DB:
  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score:
                                                                                                                                                                                                                                                                                                                                            US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           No.:
                                                                                                                                                                                                                                                                                                                                                                                                               Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Scores:
  813
                                                                                                                                                                          693
                                                                                                                                                                                                                                                             633
                                                                                     753
                                        61
                                                                                                                             41
                                                                                                                                                                                                                  21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 3566)
Hoornaert, I., Marynen, P., Goris, J., Sciot, R. and Baens, M. MAPK phosphatase DUSP16/MKP-7, a candidate tumor suppressor for Chromosome region 12p12-13, reduces BCR-ABL-induced transformation Oncogene 22 (49), 7728-7736 (2003)
                                                                                                                                                                                                                                                                                                        \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (26-APR-2002) Department for Human Genetics-Flanders
Interuniversity Institute for Biotechnology (VIB), Katholieke
Universiteit Leuven, Herestraat 49, Leuven B-3000, Belgium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Direct Submission Submitted (26-APR-2002) Department
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hoornaert, I., Marynen, P. and Baens, M.
SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                             ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                    MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                          CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 3566)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /translation="mahemigtqivterlyallesgtekyllidsrpfveyntshile ainincsklamkrrloobkylliteliobskylvytoossodyaslesdc ainincsklamkrrloobkylliteliobskylvytoossodyaslesdc flityllgkleksfrloobkylliteliobskylvytoossodyaslesdc flitylligkleksfrloobkylliteliobskylvptoisgopclpvanigpt rilphilylgcopdylakelmoongigylnasmyrcpkdpipeshflrvpvndsfcek ilphilpksvdpielekakasngcylvhclagisbaatiaiayinkendmeldeayrfvke krptispnenpigqlldyekkikwlythqlagisbaatiaipplyoalsglabayrfvke krptispnenpigqlldyekkikwlythqlagisbakkikllhlekpnepvpavseggokse fplsepcadastsbaagorpyhpasypsvpsvopslledypvkysplyoabseggokse syklkesfildiskoliksabalespekkikopskrengyrfssglasitskakledpspydassespevobstesbabilespekkiksprikssglasitskildpriksgs vednyhtsfilgeksasitekkioptarbsdsgekkiksprikssgradsrrspekesspekkitsprikssgradsrrspekesspekopk ysasaityggaasysaytscsolptysvrrrobspradsrrsmheesppekopk rysasaityggaasysaytscsolptysvrrrobspredspradsrrsmheesppekopk rrscomefgesimsenrsreelgkvosossfsgsmeiievs"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Homo sapiens"
/mol type="mRNA"
/db_xref="taxon:9606"
/chromosome="12"
/map="12p13-p12"
/tissue_type="bone marrow'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /product="dual specificity phosphatase
/protein_id="AAN75120.1"
/db_xref="G1:25573088"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /gene="DUSP16"
/EC_number="3.1.3.48"
/EC_number="3.1.3.16"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         note="synonym:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /gene="DUSP16"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Socation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        . .3566
                                                                                                                                                                                                                                                                                                                                                                                           6.66e-150
1552.00
99.67%
99.34%
99.23%
                                                                                                                                                                                                                                                                                                                                              x AF506796 (1-3566)
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                         Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                             004
    872
                                            90
                                                                                       812
                                                                                                                                  60
                                                                                                                                                                                                                     40
                                                                                                                                                                                                                                                               692
                                                                                                                                                                                                                                                                                                        20
```

```
DEFINITION
ACCESSION
VERSION
                                                                                                                                                                                       RESULT 14
AX374994
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                    8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5
                                                                                                REFERENCE
AUTHORS
                                                                                                                                  KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                유 성 유
                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                    당
                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                            뮍
                                                                                                                                                                                                                          ם
                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1053
                                                                                                                                                                                                                                                                                                                                                                                                         1233
                                                                                                                                                                                                                                                                                                                                                                                                                                            1173
                                                                                                                                                                                                                                                              1473
                                                                                                                                                                                                                                                                                                1413
                                                                                                                                                                                                                                                                                                                                    1353
                                                                                                                                                                                                                                                                                                                                                                       1293
                                                                                                                                                                                                                            1533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           873
                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                        221
                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         101
                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                              281
                                                                                                                                                                                                                                                                                                                  261
                                                                                                                                                                                                                                                                                                                                                                                                                           201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        81
                                                     Protein Patent:
                                                                                                                                                             AX374994
Sequence 17 from Patent
AX374994
AX374994.1 GI:19169826
                                                                    Tang,Y.T., Elliott,V.S., Ramkumar,J., Yao,M.G., Burford,N., Wang,Y.E., Stewart,E.A., Gandhi,A.R., Patterson,C., Lee,E.A., Hafalia,A.J., Lu,D.A., Tribouley,C.M., Griffin,J.A., Baughn,M.R. Yue,H., Warren,B.A., Nguyen,D.B. and Walia,N.K.
                                                                                                                                     Homo
                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLySSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AspCygPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                        GlnThr 302
                                                                                                                                                                                                                                                                                                LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                    CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATC
                                                                                                                                                                                                                                                                                                                                             LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet 260
                                                                                                                                                                                                                                                                                                                                                                        CCGTGGTTGGACAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                 ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                          Arccccgagrcrcarrrccrgcgrgrgccrgrgaaaagacagcrtttgggagaaaattttg
                                                                                                                                                                                                                                                                                                                                                                                                                   | IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                           CAGACT 1538
                                                                                                                                                                                                                                                             ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                         | IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                   sapiens
                                                                                                                                            sapiens (human)
                         n phosphatases
WO 0210363-A 17 07-FEB-2002;
Genomics, Inc. (US)
Location/Qualifiers
1. .3766
/organism="Homo sapiens"
/mol_type="unassigned DN:
/db_xref="taxon:9606"
                                                                                                                                                                                3766 bp
Patent WO0210363
          DNA"
                                                                                                                                                                                          DNA
                                                                                                                     Hominidae;
                                                                                                                                                                                           linear
                                                                                                                             Euteleostomi;
                                                                                                                                                                                           PAT
                                                                                                                                                                                           01-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1172
                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                              220
                                                                                                                                                                                                                                                                                                                                                                                                                                                1232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                 1532
                                                                                                                                                                                                                                                                                                    1472
                                                                                                                                                                                                                                                                                                                    280
                                                                                                                                                                                                                                                                                                                                      1412
                                                                                                                                                                                                                                                                                                                                                                                                            1292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100
                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No.:
Score:
Score:
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                             日
                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                日
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                                                                 δ
                                                                                                                                                      В
                                                                                                                                                                    Ş
                                                                                                                                                                                     дd
                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                      뫄
                                                                                                                                                                                                                                                                                                                                                    5
                         δ
                                                밁
                                                           δ
                                                                             Ъ
                                                                                              5
                                                                                                             밁
                                                                                                                       1198
                                                                                                                                                         1138
                                                                                                                                                                                             1078
                                                                                                                                                                                                                               1018
              1378
                                                1318
                                                                                    1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       538 ATGGCCCATGAGATGATTGGAAACTCAAATTGTTACTGAGAGGTTGGTGGCTGTGGAA
                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                 161
                                                                                                                                                                                                                                                                   958
                                                                                                                                                                                                                                                                                                      868
                                                                                                                                                                                                                                                                                                                                        838
                                                                                                                                                                                                                                                                                                                                                                                                              718
                                                                                                                                                                                                                                                                                                                                                                                                                                                 658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    598
                                                                                                                                                                                                                                                                                   141
                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                         101
                                                                                                                                                                                                                                                                                                                                                                          778
                                                                  261
                                                                                                                                       221
                                                                                                                                                                           201
                               281
                                                                                                                                                                                                                                                                                                                                                                                            81
                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                       GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                        AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ThrLeuValProThrCysIleSerGlnDroCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                          ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                            CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAAGCCTGACTTT
                                                                                                                                                                                                      GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                  ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
             ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                    cTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                             LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                   | IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                       LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           note="Incyte"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             7.14e-150
1552.00
99.67%
99.34%
99.23%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            No:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            x AX374994 (1-3766)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7480570CB1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3766
300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0011
                                                                                                                                                                                                                                                    180
                                                                                                                                                             1197
                                                                                                                                                                                                 1137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            597
                                    300
                                                                                                                                                                                                                                    1077
                                                                                                                                                                                                                                                                       1017
                                                                                                                                                                                                                                                                                                                                                                                837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20
                  1437
                                                     1377
                                                                                         1317
                                                                                                         260
                                                                                                                            1257
                                                                                                                                             240
                                                                                                                                                                               220
                                                                                                                                                                                                                   200
                                                                                                                                                                                                                                                                                        160
                                                                                                                                                                                                                                                                                                          957
                                                                                                                                                                                                                                                                                                                            140
                                                                                                                                                                                                                                                                                                                                             897
                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                   777
                                                                                                                                                                                                                                                                                                                                                                                                                                    80
                                                                                                                                                                                                                                                                                                                                                                                                                                                     717
```

```
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 15
BD171157
LOCUS
                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                       망
                                                                                                                                                                          δ
                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-109_COPY_1_302 (1-302) x BD171157 (1-4790)
                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ঠ
                       밁
                                                   ş
                                                                                     문
                                                                                                          ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

CE 1 (bases 1 to 4790)

Chara,O., Nagase,T. and Nakajima,D.

Novel gene and protein encoded thereby

Patent: WO 02052005-A 13 04-JUL-2002;

KAZUSA DNA RESEARCH INSTITUTE,OSAMU OHARA,TAKAHIRO NAGASE, DAISUKE

NAKAJIMA

OS Homo sapiens (human)

PN WO 02052005-A/13

PD 04-JUL-2002

PR 22-DEC-2001 WO 2001JP011217

PR 22-DEC-2000 WO 2001JP011217

PR 22-DEC-2000 WO 2001JP011217

PR 22-DEC-2000 JP 00P 389742

PI OSAMU OHARA,TAKAHIRO NAGASE,DAISUKE NAKAJIMA

PC C12N15/12,C07K14/47

CC Novel gene and protein encoded thereby

FH Key

CDS (184)...(2178).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1438 CAGACT 1443
                             484
                                                         101
                                                                                       424
                                                                                                                                                 364
                                                                                                                                                                                                           304 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                     244 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301 GlnThr
 121
                                                                                                                                                                                                                                                                                                                                184 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                          41 HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                   81
                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                       21 SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                1 MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BD171157 4790 bp DNA Novel gene and protein encoded thereby. BD171157 GI:27876969 WO 02052005-A/13.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens (human)
LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer 140
                            GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                              AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                     CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100
                                                                                                                                               302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
1. .4790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Homo sapiens"
/mol_type="genomic DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                       9.69e-150
1552.00
99.67%
99.34%
99.23%
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                      Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                         0011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4790
300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PAT 17-JAN-2003
                             543
                                                         120
                                                                                     483
                                                                                                                                               423
                                                                                                                                                                             80
                                                                                                                                                                                                           363
                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                     303
                                                                                                                                                                                                                                                                                                 40
                                                                                                                                                                                                                                                                                                                              243
                                                                                                                                                                                                                                                                                                                                                            20
```

9 2 9 5 5

ъ	544	
×	141	ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr 160
5	604	ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC 663
4	161	ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180
ö	664	CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG 723
ζ.	181	GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe 200
õ	724	CAGCAGAATGGGATTGGGTTATGATGTCTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT 783
	201	IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu 220
σ̈	784	ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG 843
¥	221	ProTrpLeuAspLysSerValAspPhelleGluLysAlaLysAlaSerAsnGlyCysVal 240
ō	844	CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCCAAAAGCCTCCAATGGATGTGTT 903
Y	241	LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet 260
₽.	904	CTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCACCATCGCTATCGCCTACATCATG 963
Ÿ	261	LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr 280
ō	964	AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAAA
¥	281	IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn 300
Ď.	1024	ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC 1083
¥	301	GlnThr 302
σ	1084	CAGACT 1089
earch co	omple.	earch completed: June 22, 2004, 02:43:22

무요

Search completed: June 22, 2004, 02:43:22 Job time: 3555.67 secs

This Page Blank (uspto)

```
Tue
```

```
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
```

```
-MODELLET REMBER 1 DEV-X1h
-MODELLET REMBER 20039/App_query.fasta_1.1294
-Q2-/Cgn2_1/USPTO_spool/US10029345/runat_21062004_164146_29039/App_query.fasta_1.1294
-Q2-/Cgn2_1/USPTO_spool/US10029345/runat_21062004_154146_29039/App_query.fasta_1.1294
-Q3-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN2_1-Q4-/CGN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OM protein - nucleic search, using frame_plus_p2n model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Command line parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ygapop 10.0,
Ygapop 10.0,
Fgapop 6.0,
Delop 6.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           June 21, 2004, 20:53:18 ; Search time 2262.97 Seconds (without alignments) 3985.196 Million cell updates/sec
                                                                                                                                                                                                                                                                                110:
110:
114:
115:
116:
116:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-109_COPY_1_302
1564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EST:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27513289 seqs, 14931090276 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MAHEMIGTQIVTERLVALLE.....PNFNFLGQLLDYEKKIKNQT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                             em estro
em_estfun:*
em_gss_inv:*
em_gss_inv:*
em_gss_inv:*
em_gss_vrt:*
em_gss_wrt:*
em_gss_mam:*
em_gss_mam:*
em_gss_pod:*
em_gss_pds:*
em_gss_pds:*
em_gss_vrl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       em_estpl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         em_estin:*
em_estmu:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        em_esthum: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        em_estba:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Xgapext
Ygapext
Fgapext
Delext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0.5
7.0
7.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               55026578
```

gb_gss2:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Ω Ω	o o	α α α α α΄	Result No 1 1 2 2 3 3 5 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
44444 442 443 443 443	12 3 3 3 4 4 5 6 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	320 320 330	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	No. t
55 55 55 55 55 55 55 55 55 55 55 55 55	. ο ω	675.5 675.5 675.5 675.5 685.5 685.5	100 98 98. 95 95 93 93 93 93 87 77 77 77 77 77 77	Score 1369.5 1145.5 1099 1086.5 1081 1081
37.5 37.5 36.9 36.9			4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	
1148 494 494 861 635 1043	667 801 685 459	463 463 463 463 463	650 2207 924 862 602 595 595 3325 3325 3325 609 946 683 683 619 510 60 510 619	160584001C
113	114	100110	i i	
BM910608 BQ318152 BQ318155 CA325142 BE377720 BM563030 CB606296	0 W 0 0 0 0 0 4 0 0 0 0 0 0 0 0 0 0 0 0	37964 37964 37964	BF472046 BC038231 CA474739 BQ770036 AW847425 AW847425 AW847425 BU946562 BU946569 B1657528 BU946569 B1657528 BY9413657 BM942526 BY942568 BF815601 BF815604 BR916868	10721 10721 170421
BM90608 AGENCOURT BQ318152 RC21-CT04 BQ318155 RC1-CT046 CA325142 UI-M-FY0- BE377720 601229866 BM563030 AGENCOURT CB606296 AMGNNUC:S	394418 CB 130134 AG 165612 BE 566061 UI 004625 CM	58779 9894 v 98429 06149 06149	BF472046 U1-M-BH3- BC038231 Homo sapi CC4474739 AGENCOURT BQ770036 UI-M-F10- AW847425 RC1-CT020 AW847425 RC1-CT020 AW847426 RC1-CT020 AW847426 RC1-CT020 BU946569 70376910 BI657528 603281866 AY413655 Homo sapi AY413655 Homo sapi AY413655 Homo sapi AY413656 W1-M-GG0p CG583869 OST226476 BF582366 602094304 BF882366 MR2-CT012 BM546940 AGENCOURT BE946884 UI-M-BH3- RM908765 AGENCOURT	ecription

ALIGNMENTS

REFERENCE	KEYWORDS SOURCE ORGANISM	ACCESSION VERSION	RESULT 1 BQ721265 LOCUS
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 898)	EST. Homo sapiens (human) Homo sapiens	IMAGE:6194455 5', mRNA sequence. BQ721265 BQ721265.1 GI:21860162	BQ721265 898 bp mRNA linear EST 16-JUL-2002

```
Ś
                                                                                                               밁
                                                                                                                                                               Ş
                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                             Д
                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                               314
                                                                                                                                                                        104
                                                         124
                                                                                                                                                                                                                                    254
                                                                                                                                                                                                                                                                                                                                                       194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             134
                                                                                                                                                                                                                                                                                              84
                                                                                                                                                                                                                                                                                                                                                                                                                64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. James R. Lupski
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
GlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSerThrLeuVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  http://image.llnl.gov
Plate: LLAM13599 row: 1 column: 08
High quality sequence stop: 669.
Location/Qualifiers
                                                                                                                                     LeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeuLeuAlaGly
                                                                                            ĊŦĊĀĊŦĠŦĀĊŦŤĊŦĠĠĠŦĀĀĀĊŦĠĠĀĠĀĀĠĀĠĊŦŦĊĀĀĊŦĊŦĠŦŦĊĀĊĊŦĠĊŦŦĠĊĀĠĠŦ
                                                                                                                                                                                                              A Gerrera de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la compa
                                                                                                                                                                                                                                                                                                                                                                          LeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAspCysSerGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSerHisIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
                                                                                                                                                                                                                                                              LysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSerAspCysPhe
                                                                                                                                                                                                                                                                                                                                                    TTAATTACAGAGCTCATCCAGCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGlnAspLysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCCCACATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clone lib="Lupski sympathetic trunk"
/note="Vector: pCMV-SPORT6 (Life Technologies); Site 1:
NotI; Site 2: SalI; cDNA made by oligo-dT priming.
Directionally cloned using the following adaptors:
5'-TCGACCCACGGTCCG-3' and
5'-GACTAGTTCTAGATCGCGACCGACCGCCT(15)-3'. Size selected >
1 kb for average insert length 1.9 kb. Tis a primary library, non-amplified. Library constructed by Life Technologies and donated by J. Lupski, M.D./Ph.D. (Baylc college of Medicine); available through Life
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Technologies."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /tissue_type="sympathetic
/dev_stage="adult, 16 yr"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      organism="Homo sapiens"
/mol_type="mRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            clone="IMAGE: 6194455"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     . .898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1369.50
95.27%
94.26%
87.56%
13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.78e-152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    x BQ721265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                       CAGCGAAACATAAGGTTGACATTGATTGCAGTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (1-898)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Collection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ë,
                                  143
                                                                                               373
                                                                                                                                                     123
                                                                                                                                                                                                                     313
                                                                                                                                                                                                                                                                              103
                                                                                                                                                                                                                                                                                                                                          253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         43
                                                                                                                                                                                                                                                                                                                                                                                                    83
                                                                                                                                                                                                                                                                                                                                                                                                                                                             193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23
```

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 2
BI821804
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뮰
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                733
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                144
                                                                                                                                                                                                                                            Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
plafe. //image.llnl.gov
                                                                                                                                                                                                                   High quality sequence stop: 805
                                                                                                                                                                                                                                                                                                                                                                                                   NIH-MGC http://mgc.nci.nih.gov/.
national Institutes of Health, Mammalian Gene Collection
Unpublished (1999)
                                                                                                                                                                                                                                   Plate: LLAM11440 row: f column:
                                                                                                                                                                                                                                                                                                                                                                                        Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 836)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BI821804
603035883F1 NIH_MGC_115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BI821804
BI821804.1 GI:15933354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                oAsnPheAsn---PheLeuGlyGlnLeuLeuAspTyrGluLysLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AspMetSer-LeuAspGluAlaTyrArgPheValLysGluLysArgProThrIleSerPr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAAACTTCAAATTTTĊTTĠĠĠĊĊAĀĊTĊCCTGGCATTATGAAAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGTTTAGCTGGGATCTCCCGCTCGGC-ACCATCGCTATCGCCTACATCATGAAGAAGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACAAATCAGTĀGĀTTTCATTGĀGĀĀĀGCAĀĀĀGCCTCCĀĀTGGĀTGTGTTCTĀGTGCĀC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMetLysArgMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysValLeuValHis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAATT-TTGCCGTGGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeuProTrpLeu
||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPheIleProGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTTATCCCCCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATGCAGCAGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACCCGAATTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ProThrCysIleSerGlnProCysLeuDroValAlaAsnIleGlyProThrArgIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCTAGTC
/clone_lib="NIH_MGC_115"
/note="Organ: pooled brain, lung, testis; Vector:
/note="Organ: pooled brain, lung, testis; Vector:
pCMV-SPORTS; Site_1: NotI; Site_2: EcoRV (destroyed);
source anonymous pool of 6 male brains, age range 23.7
male lung, age 27; and 1 male testis, age 69. Library
                                                                                                             /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="IMAGE:5176724"
                                                                                              /lab_host="DH10B"
                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  bp mR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mRNA linear EST 04-OCT
18 CDNA clone IMAGE:5176724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       297
       Library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               04-OCT-2001
                       23-27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        493
```

```
715
mRNA
linear
EST 09-OCT-2003
```

```
RESULT 3
CF727177
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                             S
                                                                                                                                                                                 밁
                                                                                                                                                                                                       S
                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                        ঠ
                                                                                                                                                                                                                                                                                                           엉
                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-109_COPY_1_302 (1-302) x BI821804 (1-836)
                                                                                          ð
                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      No.:
                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           130
                                                                                                                                                        270
                                                                                                                                                                                     599
                                                                                                                                                                                                                                                                                                                                          210
                                                                                                                                                                                                                                                                                                                                                                                                       190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 CAAAGCTCCCAAGATGT-GCCTCTCTCTCAGACTGTTTTCTCACTGTACTTCTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N
                                                                              lyGlnLeuLeuAspTyrGluLysLysIleLysAsnGlnThr 302
                                                                                                                                          AlaTyrArgPheValLysGlu-LysArgProThrIleSerProAsnPheAsnPheLeu-G
                                                                                                                                                                                                      ArgSerAlaThrIleAlaIleAlaTyrIleMetLysArgMetAspMetSerLeuAspGlu
                                                                                                                                                                                                                                                 ATTGAGAAAGCAAAAGCCTCCAATGGATGTGT-CTAGTGCACTGTTTAGCTGGGATCTCC
                                                                                                                                                                                                                                                                    IleGluLysAlaLysAlaSerAsnGlyCysValLeuValHisCysLeuAlaGlyIleSer
                                                                                                                                                                                                                                                                                                              CCTGTGAATGACAGCTTCTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGATTTC
                                                                                                                                                                                                                                                                                                                                   ProValAsnAspSerPheCysGluLysIleLeuProTrpLeuAspLysSerValAspPhe
                                                                                                                                                                                                                                                                                                                                                                                          AsnAlaSerTyrThrCysProLysProAspPheIleProGluSerHisPheLeuArgVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CysGlnArgAspValLeuAsnLysGluLeuIleGlnGlnAsnGlyIleGlyTyrValLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ProCysLeuProValAlaAsnIleGlyProThrArgIleLeuProAsnLeuTyrLeuGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ArgCysPheProGlyLeuCysGluGlyLysSerThrLeuValProThrCysIleSerGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAACTGGAGAAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LysLeuGluLysSerPheAsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GlnSerSerGlnAspValAlaSerLeuSerSerAspCysPheLeuThrValLeuLeuGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGCATTCAGCGAAACATAAGGTTGACATTGA-TGCAGTCAGAAGGTTGTAGTTTACGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlnHisSerAlaLysHisLysValAspIleAspCysSerGlnLysValValValTyrAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGCTCCAAGCTTATGAAGCGAAGGTTGCAACAGGACAAAGTGTTAATTACAGAGCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CysSerLysLeuMetLysArgArgLeuGlnGlnAspLysValLeuIleThrGluLeuIle
                                                                                                                          GCTTACAGATTTGTGACAGAACAAGAGACCTACTATATCTCCAAACTTCAATTTTCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCCAGCGAGATGTCCTCAACAAGGAGCTGATGCAGCAGAATGGGATCGGTTATGTGTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGTAGTTTCCCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           oligo-dT primed and directionally cloned (EcoRV site is destroyed upon cloning). Average insert size 1.8 kb, insert size range 1-3 kb. Library is normalized and enriched for full-length clones and was constructed by Gruber (Invitrogen). Research Genetics tracking code 021. Note: this is a NIH_MGC Library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9.27e-126
1145.50
96.08%
95.69%
73.24%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          936
244
1
7
0
                                                                                                                                                        289
                                                                                                                                                                                       656
                                                                                                                                                                                                                                                   598
                                                                                                                                                                                                                                                                                                              539
                                                                                                                                                                                                                                                                                                                                           229
                                                                                                                                                                                                                                                                                                                                                                          479
                                                                                                                                                                                                                                                                                                                                                                                                       209
                                                                                                                                                                                                                                                                                                                                                                                                                                       419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    359
```

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KEYWORDS
SOURCE
ORGANISM
                                 δ
                                                                                        맑
                                                                                                                              Ś
                                                                                                                                                                              밁
                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                   US-10-029-345A-109_COPY_1_302 (1-302) x CF727177
밁
                                                                                                                                                                                                                                                                                                                                           Query
                                                                                                                                                                                                                                                                                                                                                              Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                   Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                      Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                          127
                                                                                                                                     107
                                                                                        62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. James Lin University of Iowa
CDNA Library preparation: Dr. M. Bento Soares, University of Iowa
cDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
CDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: Distribution information can be found at
http://genome.uiowa.edu/distribution/mousefi.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, M
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       UI-M-HB0-ckj-j-09-0-UI.rl NIH_BMAP_HB0 Mus musculus cDNA clone IMAGE:30548096 5', mRNA sequence. CF727177 CF727177.1 GI:37601345
                                                                                                                                                                                  Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This clone was contributed by the Brain Molecular Anatomy Project
                            GluPheSerArgCysPheProGlyLeuCysGluGlyLysSerThrLeuValProThrCys 146
                                                                                                                  LeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeuLeuAlaGlyGlyPheAla
                                                                                                                                                                                                          ValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSerAspCysPheLeuThrVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (bases 1 to 715)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         primer:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /tissue type="whole eye"
/dev_stage="embryo 12.5,13.5,14.5 dpc"
/dab_host="DH108 (T1 phage resistant)"
/dab_host="DH108 (T1 phage resistant)"
/dlone lib="NH1 BMAP H80"
/note="Organ: Eye; Vector: pYX- Asc; Site 1: EcoR I;
Site 2: Not I; The library was constructed according
Saledo, Lennon and Soares, Genome Research, 6:791-806,
1996. Denatured RNA was size fractionated on a 1% agarose
gel.First strand cDNA synthesis was primed with oligo-dT
primer containing a Not I site. Double strand cDNA was
size selected according to mRNA size fraction, ligated
with EcoR I adaptor, digested with NotI and then cloned
directionally into pYX-Asc vector. The library tag
sequence located between the Not I site and the polyA tail
is TTATTGAAGT. This library was created for the University
lowa Brain Anatomy Project (BMAP); 'Gene Discovery in the
Developing Mouse Nervous System', supported by National
Institute of Mental Health (NIMH)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /clone="IMAGE:30548096"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /mol_type="mRNA"
/strain="C57BL/6"
/db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       organism="Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                      2.58e-120
1099.00
98.15%
95.37%
70.27%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            pxx-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         musculus"
                                                                                                                                                                                                                                                                                                                                                                                        Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                   Gaps:
                                                                                                                                                                                                                                                                                                                                             Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mammalian
                                                                                                                                                                                                                                                                             (1-715)
                                                                                                                                                                                                                                                                                                                      715
206
4
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Collection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            University of Iowa
                                                                                                                                       126
       181
                                                                                             121
                                                                                                                                                                                     61
```

682 214 4 6 2

```
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 4
BI816954/c
LOCUS
                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뭕
                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                        source
                                                                                                                                                                                                                                                                                                  Prange, C.K.

The I.M.A.G.E. Consortium quality coresequencing for verification Unpublished (2001)
Other ESTs: BG058779
Contact: Prange CK
The I.M.A.G.E. Consortium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  362
                                                                                                  Seq High
                                                                                                                           Rmail: help@image.llnl.gov
This read has been verified (found to hit its original self in the correct orientation), as part of the I.M.A.G.E. Consortium quality control effort. High quality sequence is defined as having 100 or more base pairs with a phred quality value of 20 or greater, where a sliding window of 4 base pairs with a phred quality value of 15 or greater marks the beginning and end of the sequence. For information on obtaining this clone, please contact info@inage.llnl.gov. effort.

Plate: LLAM9388 row: k column: 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                182
                                                                                                                                                                                                                                                                           Lawrence Livermore National Laboratory
Livermore, CA, USA
                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

(bases 1 to 682)

Kale, P.I., Harsch, T.J., Folta, P.A., Nelson, D.O., Sanders, C.G. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IMBGEG 10 2000/slz410bdff41.xl Soares_NPBMC Homo clone IMAGE:4140798 3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BI816954.1 GI:15911639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsnGlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTAGATGAGGCTTACAGATTTGTGAAAGAAAAAAGACCTACTATATCTCCGAATTTTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LeuAspGluAlaTyrArgPheValLysGluLysArgProThrIleSerProAsnPheAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMetLysArgMetAspMetSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ĠrĠĠĀrrrcĀrrĠāĠĀĀĀĠĊĀĀĀĀĠĊĊrċĊĀĀrĠĠĊrĠi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ValAspPheIleGluLysAlaLysAlaSerAsnGlyCysValLeuValHisCysLeuAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGCGAGTGCCTGTGAATGACAGCTTTTGTGAGAAAATCCTACCATGGTTGGACAAGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LeuArgValProValAsnAspSerPheCysGluLysIleLeuBroTrpLeuAspLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTCATACCTGAATCTCACTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TyrValLeuAsnAlaSerTyrThrCysProLysProAspPheIleProGluSerHisPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGACCTGATGCAACAGAATGGGATTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIleGlnGlnAsnGlyIleGly 186
                                                                                                              primer: -21m13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATATCTCAGCCTTGCTTACCTGTTGCGAACATTGGGCCAACTCGAATTCTTCCCCAATCTC 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     quality sequence stop: 682.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sapiens (human)
                      /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
         clone="IMAGE:4140798"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    rctcgctccgccactattgctattgcctacatcatgaagaggatggacatgtct
                                                                                                                                                                                                                                                                                                                                                                                control effort: clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EST 10-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                              맑
                                                       δ
                                                                                      В
                                                                                                             δ
                                                                                                                                                 문
RESULT
                                                                                                                                                                    Ş
                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                 문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       No.:
                                                        269
                                                                                                                 249
                                                                                                                                                 137
                                                                                                                                                                            229
                                                                                                                                                                                                          197
                                                                                                                                                                                                                                      209
                                                                                                                                                                                                                                                                    257
                                                                                                                                                                                                                                                                                               189
                                                                                                                                                                                                                                                                                                                               317
                                                                                                                                                                                                                                                                                                                                                           169
                                                                                                                                                                                                                                                                                                                                                                                        377
                                                                                                                                                                                                                                                                                                                                                                                                                    149
                              17
                                                                                      77
                                                                                                                                                                                                                                                                                                                                                                                                                                                 437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      49
                                             GluAlaTyrArgPhe
                                                                                                SerArgSerAlaThrIleAlaIleAlaTyrIleMetLysArgMetAspMetSerLeuAsp
                                                                                                                                       TTCATTGAGAAAAGCAAAAGCCTCCAATGGATGTGTTCTAGTGCACTGTTTAGCTGGGATC
                                                                                                                                                         PhelleGluLysAlaLysAlaSerAsnGlyCysValLeuValHisCysLeuAlaGlyIle
                                                                                                                                                                                                                   LeuAsnAlaSerTyrThrCysProLysProAspPheIleProGluSerHisPheLeuArg
                                                                                                                                                                                                                                                                                                                     GGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATGCAGCAGAATGGGATTGGTTATGTG
                                                                                                                                                                                                                                                                                                                                       GlyCysGlnArgAspValLeuAsnLysGluLeuIleGlnGlnAsnGlyIleGlyTyrVal
                                                                                                                                                                                                                                                                                                                                                                                              TTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGT
                                                                                                                                                                                                                                                                                                                                                                              CAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACCCGAATTCTTCCCCAATCTTTATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                          SerArgCysPheProGlyLeuCysGluGlyLysSerThrLeuValProThrCysIleSer 148
                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTCGTTGTTTCCCCTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGTAAACTGGAGAGAGCTTCAACTCTGTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlyLysLeuGluLysSerPheAsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPhe 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GATCAAAGCTCCCAAGATGTTGCCTCTCTCTTCAGACTGTTTTCTCACTGTACTTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AspGlnSerSerGlnAspValAlaSerLeuSerSerAspCysPheLeuThrValLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCCAGGATTCAGCGAAACATAAGGTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AsnCysSerLysLeuMetLysArgArgLeuGlnGlnAspLysValLeuIleThrGluLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | IleGlnHisSerAlaLysHisLysValAspIleAspCysSerGlnLysValValValTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AACTGTNCCCAGCTA---TAAGCGAAGGTGCAACAGGACAAGTGTT-ATTACAGAGCTC
                                                                                                                                                                                                    GTGAATGACAGCTTTTGTGAGAAAATTTTGCCGTGGTTGGACAAATCAGTAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3']; double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library is normalized; constructed in the laboratory of M. Bento Soares (University of Iowa)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7.44e-119
1086.50
96.89%
95.11%
69.47%
                                                       273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             x BI816954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (1-682)
```

18 268

248 138 228

208

198

188

318

258

168

378

438

498 108 88

558

89

618

78

```
JOURNAL COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOURCE
ORGANISM
                                                                             S
                                                                                                                                                             र्
                                                                                                                                                                                                                                                                            Percent Similarity:
Best Local Similarity:
Query Match:
                                     밁
                                                                                                                          밁
                                                                                                                                                                                                            US-10-029-345A-109_COPY_1_302 (1-302) x CF532917 (1-656)
                                                                                                                                                                                                                                                                                                                                                                                    Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CF532917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                No ::
  55
                                          63
                                                                                    35
                                                                                                                                                      16 ValAlaLeuLeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgPro-PheVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. Jim Lin, University of Iowa
CDNA Library preparation: Dr. M. Bento Soares, University of Iowa
CDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
CDNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: Distribution information can be found at
http://genome.uiowa.edu/distribution/mousefl.html
This clone was contributed by the Brain Molecular Anatomy Project
                                                                                                                              w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CF532917
UI-M-GH0-cgw-n-02-0-UI.r1 NIH_BMAP_IMAGE:30357529 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            National Institutes of Health, Mammalian Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 (bases 1 to 656)
NIH-MGC http://mgc.nci.nih.gov/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CF532917.1 GI:34584885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IMAGE:30357529
CF532917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus musculus (house mouse)
sArgArgLeuGlnGlnAspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHi 75
                                                                  lGluTyrAsnThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLy
                                                                                                                              GTGGCTCTGCTGGAAAGTGGAAAAAGTGCTGCTAATTGATAGCCGACCATTTTGT
                                          GGAATACAATACGTCTCACATTTTGGAAGCCATTAATATCAACTGCTCCAAACTGATGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              primer: pYX-5
                                                                                                                                                                                                                                                                                                                                                                                                                                       /tissue_type="whole brain"
/tissue_type="whole brain"
/dev_stage="1, 5, and 15 days newborn"
/lab_host="DHIOB (TI phage resistant)"
/lab_host="DHIOB (TI phage resistant)"
/clone_lib="wIH BMAP_GHO"
/note="Organ: Brain; Vector: pYX- Asc; Site_1: EcoR I;
Site_2: Not I; The library was constructed according
Bonaldo, Lennon and Soares, Genome Research, 6:791-806,
1996. Denatured RNA was size fractionated on a 1% agarose
gel. Pirst strand cDNA synthesis was primed with oligo-dT
primer containing a Not I site. Double strand cDNA was
size selected according to mRNA size fraction, ligated
with EcoR I adaptor, digested with NotI and then cloned
directionally into pYX-Asc vector. The library tail
is CGAACTGAAT. This library was created for the University
Iowa Brain Anatomy Project (BMAP): 'Gene Discovery in the
Developing Mouse Nervous System', supported by National
Institute of Mental Health (NIMH), Hemin Chin, Ph.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                clone="IMAGE:30357529"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /strain="C57BL/6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ocation/Qualifiers
                                                                                                                                                                                                                                                      3.17e-118
1081.00
98.60%
96.74%
69.12%
                                                                                                                                                                                                                                                                                                Conservative: Mismatches:
                                                                                                                                                                                                                                                                                Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mRNA
GHO Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EST 12-SEP-2003
CDNA clone
                                            122
                                                                                    55
                                                                                                                                62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Snoo
```

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 6
CF742387
                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         183 TAAGGTTGACATTGACTGCAATCAGAAGGTGGTAGTTTATGATCAAAGTTCCCAAGATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    UI-M-HB0-cll-c-20-0-UI.rl NIH BMAP_HB0 Mus IMAGE:30619363 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                     Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. James Lin University of Iowa
CDNA Library preparation: Dr. M. Bento Soares, University of Iowa
CDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EST.
Mus musculus (house mouse)
Mus musculus
                                                                                                                                                                                                                                  Seq
                                                                                                                                                                                                                                                                                                                                                                                                                                              Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
1 (bases 1 to 639)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CF742387
CF742387.1 GI:37638726
                                                                                                                                                                                                                                                                                              Clone Distribution: Distribution information can be http://genome.uiowa.edu/distribution/mousefl.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTGTGAGAAAATCCTACCATGGTTGGACAAGTCTGTGGATTTC 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       eCysGluLysIleLeuProTrpLeuAspLysSerValAspPhe 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sProLysProAspPheIleProGluSerHisPheLeuArgValProValAsnAspSerPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 uAsnLysGluLeuIleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aAsnIleGlyProThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         uCysGluGlyLysSerThrLeuValProThrCysIleSerGlnProCysLeuProValAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           eAsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGTTCTCTGTCGTCAGACTGCTTTCTCACTGTACTTCTGGGTAAACTGGAGAGGGAGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                lAlaSerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gLysValAspIleAspCysSerGlnLysValValValTyrAspGlnSerSerGlnAspVa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCCAAAGCCTGACTTCATACCTGAATCTCACTTCCTGCGAGTGCCTGTGAATGACAGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAACATTGGGCCAACTCGAATTCTTCCCAATCTCTATCTTGGCTGCCAGCGAGATGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGTGAAGGAAAGTCCACTCTAGTCCCTACCTGCATATCTCAGCCTTGCTTACCTGTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAACTCTGTCCACCTGCATGCAGGTGGCTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAACAAGGACCTGATGCAACAGAATGGGATTGGCTATGTGTTAAATGCCAGCAATACCTG
                                                                                                                                                                                                                                  primer:
                                                                                                                                                                                                                                                                             clone was contributed by the Brain Molecular Anatomy Project
/db xref="taxon:10000"
/clone="MAGE:30619363"
/tissue="pee"whole eye-
/dev stage="embryo 12.5,13.5,14.5 dpc"
/lab_host="DH10B (T1 phage resistant)"
/clone_lib="NIH_BMAP_HB0"
                                                                                                                                                   organism="Mus musculus"
/mol_type="mRNA"
                                                                                                                              /strain="C57BL/6"
                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                             . 639
                                                                                                                                                                                                                                      PYX-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EST 10-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             182
```

Euteleostomi; ; Murinae; Mus

Mus.

```
US-10-029-345A-109_COPY_1_302 (1-302) x CF742387 (1-639)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                            LysIleLeuProTrpLeuAspLysSerValAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                 GACCTGATGCAACAGAATGGGATTGGCTATGTGTTAAATGCCAGCAATACCTGTCCAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                     GluLeuIleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysBroLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlyProThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLys
                                                                                                                                                           AAAATCCTACCATGGNTGGACAAGTCTGTGGATTTC
                                                                                                                                                                                                                                                                         CCTGACTTCATACCTGAATCTCACTTCCTGCGAGTGCCTGTGAATGACAGCTTTTGTGAG
                                                                                                                                                                                                                                                                                                                       ProAspPheIleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGGCCAACTCGAATTCTTCCCCAATCTCTATCTTGGCTGCCAGCGAGATGTCCTCAACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAAAGTCCACTCTAGTCCCTACCTGCATATCTCAGCCTTGCTTACCTGTTGCGAACATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlyLysSerThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTCCACCTGCTTGCAGGTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGlu 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSer 117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGTCGTCAGACTGCTTTCTCACTGTACTTCTGGGTAAACTGGAGAGGAGGGTCAACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACATTGACTGCAATCAGAAGGTGGTAGTTTATGATCAAAGTTCCCAAGATTTTGGTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AspIleAspCysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSer 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTGCAACAGACAAAGTATTAATTACAGAACTTATCCAACATTCTGCAAAGCATAAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AATACGTCTCACATTTTGGAAGCCATTAATATCAACTGCTCCAAACTGATGAAGCGAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AsnThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuLeuGluSerGlyThrGluLysValLeuLeulleAspSerArgProPheValGluTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LeuGlnGlnAspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGCTGGAAAGTGGAAAAAAGTGCTGCTAATTGATAGCCGACCATTTGTGGAATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="Organ: Eye; Vector: pYX- Asc; Site 1: EcoR I; Site 2: Not I; The library was constructed according Bonaldo, Lennon and Soares, Genome Research, 6:791-806, 1996. Denatured RNA was size fractionated on a 1% agarose gel.First strand cDNA synthesis was primed with oligo-dT primer containing a Not I site .Double strand cDNA was size selected according to mRNA size fraction, ligated with EcoR I adaptor, digested with NotI and then cloned directionally into pYX-Asc vector. The library tag sequence located between the Not I site and the polyA tail is TTATTGAAGT. This library was created for the University lowa Brain Anatomy Project (BMAP): 'Gene Discovery in the Developing Mouse Nervous System', supported by National Institute of Mental Health (NIMH)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1.2e-117
1076.00
98.11%
96.23%
68.80%
                                          769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
                                      đđ
                                          mRNA
                                                                                                                                                                                                                     229
                                                                                                                                                           638
                                      linear
                                EST 15-JUL-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                            197
                                                                                                                                                                                                                                                                             602
                                                                                                                                                                                                                                                                                                                                    217
                                                                                                                                                                                                                                                                                                                                                                                                 542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    62
                                                                                                                                                                                                                                                                                                                                                                                                                     Percent Similarity:
Best Local Similarit:
Query Match:
DB:
                                                Ś
                                                                                                                    밁
                                                                                                                                                                     Ś
                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                          US-10-029-345A-109_COPY_1_302 (1-302) x BU704078 (1-769)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
133 ProGlyLeuCysGluGlyLysSerThrLeuValProThrCysIleSerGlnProCysLeu
                                                                                                                                    113 LysSerPheAsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPhe 132
                                                                                                                 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity:
                                                                                                                                                                                                                                                                                                93
                                                                                                                                                                                                                     6 CAAGATGTTGGTTĊTĊTGTĊĠŢĊĀĠĀĊŢĠĊŢŢŢĊŢĊĀĊŢĠŢĀĊŢŢĊŢĠĠĠŢĀĀĀĊŢĠĠĀĠ
                                                                                                 AGGAGCTTCAACTCTGTCCACCTGCTTGCAGGTGGCTTTGCTGAGTTCTCTCGTTGTTTC
                                                                                                                                                                                                                                                            GlnAspValAlaSerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGlu 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. Jim Lin, University of Iowa
cDNA Library preparation: Dr. M. Bento Soares, University of Iowa
cDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          UI-M-FO0-bzr-n-23-0-UI.rl NIH_BMAP_FO0 Mus musculus cDNA clone IMAGE:6406486 5', mRNA sequence.
BU704078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Seq primer: pYX-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Rodentia; 1 (bases 1 to 769)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BU704078.1 GI:23631836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This clone was contributed by the Brain Molecular Anatomy Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /dev stage="mony colors of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /organism="Mus
/mol_type="mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tissue_type="whole brain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            clone="IMAGE:6406486"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          strain="C57BL/6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                 1.12e-116
1069.00
98.10%
95.24%
68.35%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             _xref="taxon:10090'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cype="mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Craniata; Vertebrata; I
Sciurognathi; Muridae;
```

S 밁

> 58 63 38

123

183

78

98

맑 Ś 밁 Ś Query Match: DB:

18

Score:

Alignment Scores:

ORIGIN

RESULT 7 BU704078

δ В Ś 밁 Ş 당

218 543 198 483 178

603

FOCUS

BU704078

Ş

423 158 363 138 303 118 243

769 200 4 0

152

65

밁 δ 片 á В Ś 밁 Ś

```
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 8
BF472046
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                           COMMENT
                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                         JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                               Bource
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           306 AATACCTGTCCAAAGCCTGACTTCATACCTGAATCTCACTTCCTGCGAGTGCCTGTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          126
                                                                                                                                                                                                     Contact: Chin, H
National Institute of Mental Health
6001 Executive Blvd. Room 7N-7190, MSC
20892-9643, USA
Tel: 301 443 1706
Fax: 301 443 9890
Email: mEST@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BF472046 650 bp mRNA linear EUI-M-BH3-awu-d-10-0-UI.rl NIH BMAP M S4 Mus musculus UI-M-BH3-awu-d-10-0-UI 5', mRNA sequence.
BF472046 BF472046.1 GI:11541229
                                                                                            CDNA Library Preparation: M.B. Soares Lab Clone distribution: Researchers may obtain BMAP CDNA clones from RESEARCH GENETICS. It should be noted that Bento Soares is generating a small number of additional specialized non-redundant arrays of BMAP CDNAs whose availability will be considered under appropriate and limited collaborative arrangements
                                                                                                                                                                                                                                                                                                                                                     discovery
Genome Res. 6 (9),
                                                                                                                                                                                                                                                                                                                                                                                                    1 (bases 1 to 650)
Bonaldo, M.F., Lenno
                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                          8889548
                                                                                                                                                                                                                                                                                                                                           97044477
                                                                                                                                                                                                                                                                                                                                                                                       Normalization and subtraction: two approaches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AspTyrGluLysLysIleLysAsnGlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTTGTGAAAGAAAAAGACCTACTATATCTCCGAATTTTAATTTTATGGGCCAACTCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PheValLysGluLysArgProThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACTATTGCTATTGCCTACATCATGAAGAGGATGGACATGTCTCTAGATGAGGCTTACAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ThrIleAlaIleAlaTyrIleMetLysArgMetAspMetSerLeuAspGluAlaTyrArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCAAAAGCCTCCAATGGCTGTGTGCTTATCCACTGCTTAGCTGGGATCTCTCGCTCCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AlaLysAlaSerAsnGlyCysValLeuValHisCysLeuAlaGlyIleSerArgSerAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACAGCTTTTGTGAGAAAATCCTACCATGGTTGGACAAGTCTGTGGATTTCATTGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AspSerPheCysGluLysIleLeuProTrpLeuAspLysSerValAspPheIleGluLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TyrThrCysProLysProAspPheIleProGluSerHisPheLeuArgValProValAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GATGTCCTCAACAAGGACCTGATGCAACAGAATGGGATTGGCTATGTCTTAAATGCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProValAlaAsnIleGlyProThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCTGGCCTCTGTGAAGGAAAGTCCACTCTAGTCCCTACCTGCATATCTCAGCCTTGCTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACTATGAGAAGACGATTAATAACCAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      musculus (house mouse)
/organism="Mus musculus"
/mol_type="mRNA"
/strain="C57BL/6J"
/db_xref="taxon:10090"
                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                       Lennon, G. and Soares, M.B.
                                                                                                                                                                                                                                                                                                                                                        791-806 (1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  635
                                                                                                                                                                                                                                                                          9643, Bethesda,
                                                                                                                                                                                                                                                                                                                                                                                       ç
                                                                                                                                                                                                                                                                                                                                                                                        facilitate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EST: 04-DEC-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cDNA clone
                                                                                                                                                                                                                                                                           3
                                                                                                                                                                                                                                                                                                                                                                                       gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          305
```

```
/clone="UI-M-BH3-awu-d-10-0-UI"
/dev stage="27-32 days"
/lab_host="DH108 (Life Technologies)"
/clone lib="NIH BMAP M 54"
/note="Vector: pT7T3D-Pac (Pharmacia) with a modified /note="Vector: pT7T3D-Pac (Pharmacia) with a modified polylinker; Site 1: Not I; Site 2: Ecc RI; The NOT BMAP M 54 library is a subtracted library of a seultimated y derived from a mixture of individually tag
        series,
```

145 ThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThrArgIleLeuPro 164	105 ThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeuLeuAlaGlyGly 124	45 AlaileAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGlnAspLysValLeu 64	5 MetileGlyThrGlnileValThrGluArgLeuValAlaLeuLeuGluSerGlyThrGlu 24	gnment Scores: d. No.: 1006.00 Matches: re: 1006.00 Matches: Conservative: Conservative: Mismatches:	ultimately derived from a mixture of individually tagged normalized libraries from ten regions of the mouse brain (cerebellum, brain stems, olfactory bulbs, hypothalamus, cortex, amygdala, basal ganglia, pineal gland, striatum, hipoccampus) after a series of subtractions to reduce the representation of cDNAs from which ESTs had already been generated. The following serially subtracted libraries were generated in this process: NIH BMAP M S3.1, NIH BMAP M S3.2, NIH BMAP M S3.2, NIH BMAP M S3.2, NIH BMAP M S3.1, NIH BMAP M S3.2, NIH BMAP M S3.2, NIH BMAP M S3.2, NIH BMAP M S3.3, NIH BMAP M S3.3, NIH BMAP M S3.3, NIH BMAP M S3.3, NIH BMAP M S3.3, NIH BMAP M S3.3, NIH BMAP M S3.3, NIH BMAP M S3.2, and NIH BMAP M S3.3, NIH BMAP M S3.2, and NIH BMAP M S3.1 libraries in the form of single-stranded circles. The remaining single-stranded circles (subtracted library) was purified by hydroxyapatite column chromatography, converted to double-stranded circles and electroporated into DH10B bacteria (LifeTechnologies) to generate the NIH BMAP M S4 library. This procedure has been previously described (Bonaldo, Lennon and Soares, Genome Research 6:791-806, 1996)"
--	--	--	---	--	--

SD

S

Al Sc Be DB DB

S 밁 र् ঠ

문

δ 밁 8 밁 8 밁 Ş 밁

밁

```
Alignment Scores: Pred. No.: Score:
                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REMARK
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 9
BC038231
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        吊
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
JOURNAL
                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                         CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LINL)
DNA Sequencing by: National Institutes of Health Intramural
Sequencing Center (NISC),
Gaithersburg, Maryland;
Web site: http://www.nisc.nih.gov/
Web site: http://www.nisc.nih.gov/
Contact: nisc_mgc@nbgri.nih.gov
Akhter,N., Ayele,K., Beckstrom-Sternberg,S.M., Benjamin,B.,
Blakesley,R.W., Bouffard,G.G., Breen,K., Brinkley,C., Brooks,S.,
Dietrich,N.L., Granite,S., Guan,X., Gupta,J., Haghighi,P.,
Dietrich,N.L., Granite,S., Guan,X., Gupta,J., Haghighi,P.,
Maduro,Q.L., Masiello,C., Maskeri,B., Mastrian,S.D., McCloskey,J.C.,
McDowell,J., Pearson,R., Stantripop,S., Thomas,P.J., Touchman,J.W.,
Tsurgeon,C., Vogt,J.L., Walker,M.A., Wetherby,K.D., Wiggins,L.,
Young,A., Zhang,L.-H. and Green,E.D.
                                                                                                                                                                                                                          Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov Series: IRAK Plate: 79 Row: a Column: 12 This clone was selected for full length sequencing because it passed the following selection criteria: matched mRNA gi: 4758211 This clone has the following problem: frame shifted.

Location/Qualifiers 1. .207 ....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NIH-MGC Project URL: http://mgc.nci.nih.gov
Contact: MGC help desk
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC/DCTD/DTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (30-SEP-2002) National Institutes of Health, Mammalian Gene Collection (MGC), Cancer Genomics Office, National Cancer Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BC038231.1 GI:23398534
HTC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Strausberg,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BC038231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens, !
IMAGE:5547764,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (bases 1 to 2207)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ĊACTTCCTGCGAGTGCCTGTGAATGACAC-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HisPheLeuArgValProValAsnAspSerPheCysGluLysIle 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTGGCTATGTGTTÄAÄTGCCAĞCAATACCTGTCCAAAĞCCTGACTTCATACCTGAATCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /clone="IMAGE:5547764"
/tlssue_type="Skin, melanotic melanoma."
/clone_Tib="NIH_MGC_72"
/lab_host="NH10B"
/note="Vector: pCMV-SPORT6"
                                                                                                                                                                               /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
           2.31e-106
989.00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similar to , mRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2207 bp mRNA linear HTC dual specificity phosphatase 8,
         Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTTTGTGAGAAAATC
       2207
190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-OCT-2002
, clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   184
RESULT 10
CA474739
                                                                      8
                                                                                                           g
                                                                                                                                                Ş
                                                                                                                                                                                         밁
                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                             á
                                                                                                                                                                                                                                                                                                                                뮍
                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                    뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local S
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
Best Local Similarity:
                                                                                   299
                                                                                                                    972
                                                                                                                                                                                         912
                                                                                                                                                      279
                                                                                                                                                                                                                        259
                                                                                                                                                                                                                                                             852
                                                                                                                                                                                                                                                                                               239
                                                                                                                                                                                                                                                                                                                                  792
                                                                                                                                                                                                                                                                                                                                                                 219
                                                                                                                                                                                                                                                                                                                                                                                                    732
                                                                                                                                                                                                                                                                                                                                                                                                                                      199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  612 CTGACCCGCATCCTGCCTCACCTCTACCTGCGCTCGCAGAAGGACGTCCTAAACAAGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120 LeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLys 139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               372 ACGGAGCCACAGGACGTGGTGGTGTTATGACCAGAGCACGCGGGACGCCAGCGTGCTGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20
                                                                                   Lys
                                                  AAG 1034
                                                                                                           CCGTCCATCTCGCCCAACTTCAACTTCCTGGGCCAGCTGCTGGAGTACGAGCGCAGCCTG
                                                                                                                             ProThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIle 298
                                                                                                                                                                               ATCATGAAGACCATGGGCATGTCCTCCGACGACGCCTACAGGTTCGTGAAGGACAGGCGC
                                                                                                                                                                                                        CAAGTCATCGTCCACTGTCTGGCTGGCATCTCCCGCTCTGCCACCATCGCCATCGCCTAC
                                                                                                                                                                                                                                                                        CysValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyr
                                                                                                                                                                                                                                                                                                                       :::|||||||||||||||||||||||::::carcarctarcgaraaagccaagcrcrccagcrgc
                                                                                                                                                                                                                                                                                                                                               GACTTCATCTGCGAGAGCCGCTTCATGCGGGTCCCCATCAACGACAACTACTGTGAAAAA
                                                                                                                                                                                                                                                                                                                                                                                                            AspPheIleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeulleGlnGlnAsnGlylleGlyTyrValLeuAsnAlaSerTyrThrCysProLysPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGATGACGCAAAATGGAATAAGCTACGTCCTCAACGCCAGCAACTCCTGCCCCAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGlu 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCCTCACTGGGGGGCTTCGCCACCTTCTCCTCCTGCCTCCCGGCCTCTGCGAGGGCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHis 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AspCysSerGlnLysValValTyrAspGlnSerSerGlnAspValAlaSerLeuSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---SerThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGGGCAAGGTGACCATTGCGGAGCTCATCCAGCCGGCTGCACGCAGCCAGGTGGAGGCT 371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlnAspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGCATGTGCTCAGCTCCGTCAACATCTGCTGCTCCAAGCTGGTGAAGCGGCGGCTGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGGGGCGGGCCTGGGGGCCGCTGGTCATCGACAGCCGCTCCTTCGTGGAGTACAACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGGCTGGGGACCGGCTCCCGAGGAAGGTGATGCAAGAAGCTGGCCAGCCTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MetAlaHisGluMetIleGlyThrGlnIleVal---ThrGluArgLeuValAlaLeuLeu
                                                                                 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81.40%
63.12%
63.24%
11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      x BC038231 (1-2207)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 2 5 5 5
```

911

851

238 791 218

198

731

671

611

551

491

99

79 311 59 251 39 191

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
Best Local Similarity:
Query Match:
                  र्
                                                                             S
                                                                                                        멍
                                                                                                                                         ঠ
                                                                                                                                                                          밁
                                                                                                                                                                                                  S
                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                 ঠ
                                                                                                                                                                                                                                                                                                                                                                                                          Alignment Pred. No.:
                                                        밁
                                                                                                                                                                                                                                                                                                US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                          Scores:
355
                                                                                                                    238
                                                                                                                                                                                                                                         118
                                                                                      73
                                                                                                                                                                                                         33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   924 bp
AGENCOURT 10700573 NCI_CGAP_ZKid1
IMAGE:6797004 5', mRNA sequence.
CA474739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 (bases 1 to 924)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cDNA Library Preparation: Invitrogen Corp

cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Agencourt Bloscience Corporation

Clone distribution: MGC clone distribution information can

found through the I.M.A.G.E. Consortium/LLNL at:

http://image.llnl.gov

Plate: LLAM14309 row: j column: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Leonard I. Zon,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; E
Actinopterygii; Neopterygii; Teleostei; Ostariophysi;
Cypriniformes; Cyprinidae; Danio.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Danio rerio (zebrafish)
Danio rerio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   High quality sequence start: 24 High quality sequence stop: 708.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Contact: Robert Strausberg, Ph.D.
                          GlnAspValAlaSerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGlu 112
                                                                          AlaLysHisLysValAspIleAspCysSerGlnLysValValValTyrAspGlnSerSer
                                                                                                                   CTGATGAAGAGAGACTGCAGCAGGACAGATCCAGATCAGCGAACTGCTGCAGCACTGC
                                                                                                                                    LeuMetLysArgArgLeuGlnGlnAspLysValLeuIleThrGluLeuIleGlnHisSer
                                                                                                                                                                            CCCTTCGTGGAGTTCAACTCCTGCCACATCCTGGAGGCCGTGAACATCAACTGCTCCAAG
                                                                                                                                                                                                  ProPheValGluTyrAsnThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLys
                                                                                                                                                                                                                                       GluArgLeuValAlaLeuLeuGluSerGlyThrGluLysValLeuLeuIleAspSerArg
GGTGACCCCGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone="IMAGE:6797004"
/lab host="DH10B (T1-resistant)"
/lab host="DH10B (T1-resistant)"
/clone lib="NCI (GAP_EKid1"
/clone lib="NCI (GAP_EKid1"
/note="Organ: kIdney; Vector: pCMV-SPORT6.1; Site_1:
EcoRV; Site_2: NotI; Cloned unidirectionally. Primer:
Oligo dT. Average insert size 1.8 kb. Constructed by J.
Wang (Research Genetics, Invitrogen Corp) from tissue
donated by L. Zon (Harvard University). Note: this is a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Danio rerio"
/mol_type="mRNA"
/db_xref="taxon:7955"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                 9.89e-106
978.50
86.08%
74.36%
62.56%
                                                                                                                                                                                                                                                                                                   x CA474739 (1-924)
                                                                                                                                                                                                                                                                                                                                            Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mRNA
Danio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         м.
D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rerio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Collection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EST 12-NOV-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ř
                                                                                                                    297
                                                                                      92
                                                                                                                                               72
                                                                                                                                                                                                         52
                                                                                                                                                                                                                                       177
                                                                                                                                                                                                                                                                     32
                                                                                                                                                                             237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 11
BQ770036
LOCUS
                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     $
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      片
                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                       COMMENT
                                                                                                                                                                                                                                                                                                   TITLE
JOURNAL
```

```
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            233
                                                                                                                                                                                                                                           Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. Jim Lin, University of Iowa
cDNA Library preparation: Dr. M. Bento Soares, University of Iowa
cDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
cDNA Sequencing by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: MGC clone distribution information can be
found through the I.M.A.G.B. Consortium/LLNL at:
http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BQ770036 862 bp mRNA
UI-M-FIO-byt-o-24-0-UI.rl NIH_BMAP_FIO Mus
IMAGE:5702255 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                 NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BQ770036
BQ770036.1 GI:21978510
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGGTTCGGGAAAGGAGAAGCGGCCGACCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ArgPhe-ValLysGluLysArgProThrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCAAGGCCAGTAACGCCAGAGTTCTGGTTCACTGTCTGGCGGGAATCTCCCGCTCGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AlaLysAlaSerAsnGlyCysValLeuValHisCysLeuAlaGlyIleSerArgSerAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AspSerPheCysGluLysIleLeuProTrpLeuAspLysSerValAspPheIleGluLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AACTCCTGCCCAAGCCAGACTTCATCCCGGACACACTTCCTGCGGGTGCCGGTGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AspValLeuAsnLysGluLeuIleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProValAlaAsnIleGlyProThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ProGlyLeuCysGluGlyLysSerThrLeuValProThrCysIleSerGlnProCysLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGAGTTTCCCATCAGTCCACCTGCTCTCAGGGGGTTTCCTGCAGTTCTCAGGGCTGTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LysSerPheAsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACATC-GCCATCGCCTACATCATGAAAGAAGATGGACATGACACTGGGATAAAACGTACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ThrIleAlaIleAlaTyrIleMet-LysArgMetAspMetSerLeu-AspGluAlaTyr-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACAGCTTCTGCGAGAAGATCCTGCCGTGGCTCGACCGCTCCGTGGAGTTCATCGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACGTGCTCAACCAGGAGCTGATGCAGCAGAACGACATCGCCTTCGTGCTGAACGCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCGGTCAGCAGCGCGGGCCCACGCGGATCCTGCCACACCTGTACCTGGGCTGCCAGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (bases 1 to 862)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               musculus
                                                                                                                                                                                    primer: pYX-5
                                                                                                                                                                                                                            clone was contributed by the
/mol_type="mRNA"
/strain="C578L/6"
/db_xref="taxon:10090"
/clone="IMAGE:5702255"
/tissue_type="whole brain"
/dev_stage="embryo 12.5dpc"
                                                                                                                             organism="Mus musculus"
                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata; | Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               281
                                                                                                                                                                                                                                Brain Molecular
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
                                                                                                                                                                                                                                Anatomy Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Euteleostomi; ; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EST 26-JUL-2002
CDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     474
```

```
US-10-029-345A-109_COPY_1_302 (1-302) x BQ770036 (1-862)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity:
                                                                                                                                                             296 LysLysIleLysAsnGlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AW847425
RC1-CT0206-270999-021-g01
                                                                                                                                                                                                                          GAAAAAAGACCTACTATATCTCCGAATTTTAATTTTATGGGCCAACTCATGGACTATGAG
                                                                                                                                                                                                                                                         GluLysArgProThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerAsnGlyCysValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CysGluLysIleLeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAla
                                                                                                                                 AAGACGATTAATAACCAGACT
                                                                                                                                                                                                                                                                                                                                                               IleAlaTyrIleMetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLys
                                                                                                                                                                                                                                                                                                                                                                                                                       TCCAATGGCTGTGTGCTTATCCACTGCTTAGCTGGGATCTCTCGCTCCGCCACTATTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGTGAGAAAATCCTACCATGGTTGGACAAGTCTGTGGATTTCATTGAGAAAGCAAAAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCAAAGCCTGACTTCATACCTGAATCTCACTTCCTGCGAGTGCCTGTGAATGACAGCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProLysProAspPheIleProGluSerHisPheLeuArgValProValAsnAspSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACAAGGACCTGATGCAACAGAATGGGATTGGCTATGTGTTAAATGCCAGCAATACCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AsnLysGluLeuIleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCys 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AACATTGGGCCAACTCGAATTCTTCCCAATCTCTATCTTGGCTGCCAGCGAGATGTCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AsnIleGlyProThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeu 175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CysGluGlyLysSerThrLeuValProThrCysIleSerGlnProCysLeuProValAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CACTCTGTCCACCTGCTTGCAGGTGGCTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGTGAAGGAAAGTCCACTCTAGTCCCTACCTGCATATCTCAGCCTTGCCTTACCTGTTGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /lab_host="DH108 (T1 phage resistant)"
/clone lib="NIH BMAP F10"
/note="Organ: Brain; 'Vector: pYX- Asc; Site_1: EcoR I;
Site_2: Not I; The library was constructed according
Bonaldo, Lennon and Soares, Genome Research, 6:791-806,
1996. Denatured RNA was size fractionated on a 1% agarose
gel.First strand cDNA synthesis was primed with oligo-dT
primer containing a Not I site. Double strand cDNA was
size selected according to mRNA size fraction, ligated
with EcoR I adaptor, digested with NotI and then cloned
directionally into pYX-Asc vector. The library tag
sequence located between the Not I site and the polyA tail
is CAGCCACGAC. This library was created for the University
Iowa Brain Anatomy Project (BMAP): 'Gene Discovery in the
Developing Mouse Nervous System', supported by National
Institute of Mental Health (NIMH), Hemin Chin, Ph.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.89e-103
959.00
98.40%
95.19%
61.32%
  602 bp mRNA linear
CT0206 Homo sapiens cDNA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative:
  mRNA sequence.
                              EST 19-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              215
                                                                                                                                                                                                                                                                           295
                                                                                                                                                                                                                                                                                                                         487
                                                                                                                                                                                                                                                                                                                                                                      275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   235
                                                                                                                                                                                                                          547
                                                                                                                                                                                                                                                                                                                                                                                                                       427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            67
Ś
                                                  밁
                                                                                              Ś
                                                                                                                                              밁
                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                        US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
     118
                                                     474
                                                                                                                                                 532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Scores:
                                                                                                                                                                                                                                            592 GTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTT
                                                                                                98
                                                                                                                                                                                              78
                                                                                                                                                                                                                                                                        58 LeuGlnGlnAspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysVal 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          High quality sequence start: 8
High quality sequence stop: 602.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contact: Simpson A.J.G.
Laboratory of Cancer Genetics
Ludwig Institute for Cancer Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 602)

Dias Neto, E., Garcia Correa,R., Verjovski-Almeida,S., Briones,M.R.,
Nagai,M.A., da Silva,W. Jr., Zago,M.A., Bordin,S., Costa,F.F.,
Goldman,G.H., Carvalho,A.F., Matsukuma,A., Baia,G.S., Simpson,D.H.,
Brunstein,A., deOliveira,P.S., Bucher,P., Jongeneel,C.V.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    999-021-g01&t3=1999-09-27&t4=1)
Seq primer: puc 18 forward
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Email: asimpson@ludwig.org.br
This sequence was derived from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rua Prof. Antonio Prudente 109, 4 andar,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             O'Hare,M.J., Soares,F., Brentani,R.R., Reis,L.F., de Souza,S.J. and Simpson,A.J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This sequence was derived from the FAPESP/LICR Human Cancer Genome Project. This entry can be seen in the following URL (http://www.ludwig.org.br/scripts/gethtml2.pl?tl=&t2=RC1-CT0206-270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tel: +55-11-2704922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Proc. Natl.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Shotgun sequencing of the human transcriptome with ORF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AW847425.1
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Fax: +55-11-2707001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Brazi.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sequence tags
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
ValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGlu 137
                                                                              LeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSer 117
                                                                                                                                              GACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCCT-- 475
                                                                                                                                                                       AspIleAspCysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSer 97
                                                CTCTCTTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGGGCTTCAACTCT 415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note=Torgan: colon; Vector: puc18; Site_1: SmaI; Site_2: SmaI; A mini-library was made by cloning products derived from ORESTES PCR (U.S. Letters Patent application No. 196,716 - Ludwig Institute for Cancer Research) profiles into the pUC 18 vector. Reverse transcription of tissue mRNA and cDNA amplification were performed under low
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              stringency conditions."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   clone_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        dev_stage="Adult"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                        5.85e-101
936.00
97.96%
96.94%
59.85%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           . 602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Acad.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GI:7942942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   lib="CT0206"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sci. U.S.A.
                                                                                                                                                                                                                                                                                                                                          x AW847425 (1-602)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative: Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                  Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (7),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3491-3496 (2000)
                                                                                                                                                                                                                                                                                                                                                                                        602
190
2
4
3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01509-010,
```

Ś 片

œ

128 156

8

Query Match: DB:

Percent Similarity:

Sao Paulo-SP,

Score:

Alignment Scores:

Мо. :

AW847425/c LOCUS

RESULT 12

DEFINITION

δ 밁 Ś 밁

> 488 276 428 256

5 밁 Ş 밁 5 밁 Ś 밁 Ś 밁 S 밁 δ

368

236 308 216 248 196 188 176

밁

```
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 13
AW847426/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                    COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Snoo
                                                                                                                                                                                                                                                                                                                             JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                 PUBMED
                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        238 GlyCysValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThr 253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           57
                                                                                                         Email: asimpson@ludwig.org.br
This sequence was derived from the FAPESP/LICR Human Cancer Genome
Project. This entry can be seen in the following URL
(http://www.ludwig.org.br/scripts/gethtml2.pl?ti=&t2=RC1-CT0206-270
999-021-906&t3=1999-09-27&t4=1)
Seq primer: puc 18 forward
High quality sequence stop: 595.
Location/Qualifiers
                                                                                                                                                                                                                                                          10737800
Contact: Simpson A.J.G.
Laboratory of Cancer Genetics
Ludwig Institute for Cancer Research
Rua Prof. Antonio Prudente 109, 4 andar,
                                                                                                                                                                                                                                                                                                                                                                                            1 (bases 1 to 595)

Dias Neto,E., Garcia Correa,R., Verjovski-Almeida,S., Briones,M.R.,

Nagai,M.A., da Silva,W. Jr., Zago,M.A., Bordin,S., Costa,F.F.,

Goldman,G.H., Carvalho,A.F., Matsukuma,A., Baia,G.S., Simpson,D.H.,

Brunstein,A., deOliveira,P.S., Bucher,P., Jongeneel,C.V.,

O'Hare,M.J., Soares,F., Brentani,R.R., Reis,L.F., de Souza,S.J. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AW847426 PRC1-CT0206-270999-021-g06
AW847426
                                                                                                                                                                                                                                                                                                                                                             Simpson, A.J. Shotgun sequencing of the human transcriptome with ORF expressed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                   Tel: +55-11-2704922
                                                                                                                                                                                                                                                 Brazi]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                          Proc. Natl. Acad. Sci.
                                                                                                                                                                                                                                                                                                                                                        sequence tags
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LysIleLeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProAspPheIleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCNAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GluLeuIleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGGCCAACCCGAATTCTTCCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GlyProThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GlyLysSerThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIle
                                                                                                                                                                                                                      +55-11-2707001
/organism="Homo Bapiens"
/mol_type="mRNA"
/db xref="taxon:9606"
/db xref="taxon:9606"
/dcv_stage="Adult"
/clone_lib="CT0206"
/note="Organ: colon; Vector: pucl8; Site_1: SmaI;
SmaI; A mini-library was made by cloning products
                                                                                                  . 595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GI:7942943
                                                                                                                                                                                                                                                                                                                                          U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          595 bp
6 CT0206
                                                                                                                                                                                                                                                                                                                                           97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                          (7),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mRNA
                                                                                                                                                                                                                                                                                                                                           3491-3496 (2000)
                                                                                                                                                                                                                                                            01509-010,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cDNA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10
                                                                                                                                                                                                                                                             Sao
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mRNA sequence.
                                                                                                                                                                                                                                                             Paulo-SP,
      Site_2:
derived
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      355
      REFERENCE
AUTHORS
TITLE
                                                                       VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                               RESULT 14
AK035652
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred.
Score:
                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                        맑
                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                    용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alignment
                                                                                                                                                                 DEFINITION
                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          No.:
                                                                                                                                                                                                                                                                                                                                            164
                                                                                                                                                                                                                                                                                                                                                                       198
                                                                                                                                                                                                                                                                                                                                                                                                                          178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      522
                                                                                                                                                                                                                                                                                        104
                                                                                                                                                                                                                                                                                                                 218
                                                                                                                                                                                                                                                                                                                                                                                                224
                                                                                                                                                                                                                                                                                                                                                                                                                                                    284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                78
                                                                                                                                                                                                                                     47
                                             Mammalia;
                                                           Eukaryota;
                                                                                                                             AK035652
```

```
from ORESTES PCR (U.S. Letters Patent application No. 196,716 - Ludwig Institute for Cancer Research) profiles into the pUC 18 vector. Reverse transcription of tissue mRNA and cDNA amplification were performed under low stringency conditions."
```

US-10-029-345A-109_COPY_1_302 (1-302) 238 GlyCysValLeuValHisCysLeuAlaGlyIleSerArgSerAla 582 GTGCAACAGGACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTT AK035652
AK035652
AK035652
AK036562
Mus make urinary bladder CDNA, RIKEN full-length enriched library, clone:9530081F05 product:TRUNCATED MAPK PHOSPHATASE 7 homolog [Homo sapiens], full insert sequence. Carninci, P. and High-efficiency AK035652.1 GI:26330815 HTC; CAP trapper. Mus musculus (house mouse) Mus musculus LeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSer LeuGlnGlnAspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysVal LysIleLeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsn GluLeuIleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLys GlyLysSerThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIle 157 ValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGlu CTCTCTTCAGACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCT GACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCCT--CCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAG GlyProThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLys GTTCACCTGCTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAA AspIleAspCysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSer ProAspPheIleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGlu GAGCTGATACAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCCAAG GGGCCTACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAG GGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATT Butheria; 2.27e-100 931.00 97.95% 96.92% 59.53% Hayashizaki, full-length Chordata; Rođentia; x AW847426 Conservative: Mismatches: Indels: Length: Matches: Gaps: cDNA cloning Craniata; Vert Sciurognathi; (1-595)Vertebrata; Muridae; w Euteleostomi; ; Murinae; Mus. HTC 19-SEP-2003 345 105 217 165 197 225 177 285 137 405 117 465 97 523 77

```
JOURNAL
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
MEDLINE
PUBMED
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Adachi, J., Alzawa, K., Akimura, T., Arakawa, T., Bono, H., Carninci, P. Fukuda, S., Furuno, M., Hanagaki, T., Hara, A., Hashizume, W., Hayashida, K., Hayatsu, N., Hiramoto, K., Hiraoka, T., Hirozane, T., Hort, F., Imotani, K., Ishii, Y., Itoh, M., Kagawa, I., Kasukawa, T., Katch, H., Kawai, J., Kojima, Y., Kondo, S., Komon, H., Kouda, M., Koya, S., Kurihara, C., Matsuyama, T., Numazaki, A., Murata, M., Koya, S., Kurihara, C., Matsuyama, T., Numazaki, R., Ohno, M., Ohsato, N., Nakamura, M., Nishi, K., Nomura, K., Numazaki, R., Ohno, M., Ohsato, N., Okazaki, Y., Saito, R., Saitoh, H., Sakai, C., Sakai, K., Sakazume, N., Okazaki, P., Tagami, M., Tagawa, A., Shiraki, T., Sogabe, Y., Tagami, M., Tagawa, A., Takahashi, F., Takaku-Akahira, S., Takeda, Y., Tanaka, T., Tomaru, A., Toya, T., Yasunishi, A., Nurana shi, F., Takaku-Akahira, S., Takabatsu, M., and Hayashizaki, Y.
                                                                                                                                                                                                                                                                                                                                              pirect Submission
Submitted (16-JUL-2001) Yoshihide Hayashizaki, The Institute of Submitted (16-JUL-2001) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research (RIKEN), Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center (GSC), RIKEN Yokohama Institute; 1-7-22 Sushiro-cho, Tsurumi-ku, Yokohama, RIKEN Yokohama (E-mail:genome-res@gsc.riken.go.jp, Kanagawa 230-0045, Japan (E-mail:genome-res@gsc.riken.go.jp, URL:http://genome.gsc.riken.go.jp/, Tel:81-45-503-9222, Pax:81-45-503-9216)
CDNA library was prepared and sequenced in Mouse Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Shibata, K., Itoh, M., Aizawa, K., Nagaoka, S., Sasaki, N., Carninci, P., Konno, H., Akiyama, J., Nishi, K., Kitsunai, T., Tashiro, H., Itoh, M., Sumi, N., Ishii, Y., Nakamura, S., Hazama, M., Nishine, T., Harada, A., Yamamoto, R., Matsunoto, H., Sakaguchi, S., Ikegami, T., Kashiwagi, K., Fujiwake, S., Inoue, K., Togawa, Y., Izawa, M., Ohara, E., Watahiki, M., Yoneda, Y., Ishikawa, T., Ozawa, K., Tanaka, T., Matsuura, S., Kawai, J., Okazaki, Y., Muramatsu, M., Inoue, Y., Kira, A. and Hayashizaki, Y. RIKEN integrated sequence analysis (RISA) system-384-format sequencing pipeline with 384 multicapillary sequencer Genome Res. 10 (11), 1757-1771 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Genome R
20499374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Carninci,P., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K., Itoh,M., Konno,H., Okazaki,Y., Muramatsu,M. and Hayashizaki, Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genome Res. 10 (10), 1617-1630 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Group Phase I & II Team.
Analysis of the mouse transcriptome
of 60,770 full-length cDNAs
Nature 420, 563-573 (2002)
6 (bases 1 to 3325)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Meth. Enzymol. 99279253
                                                                                                                                                                                                                                                                     prepare mouse tissues.
Please visit our web site for further details.
                                                                                                                                                                                                                                                                                                                             Division of Experimental Animal Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The FANTOM Consortium and the RIKEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Functional annotation of a full-length mouse cDNA collection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FANTOM Consortium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The RIKEN Genome Exploration Research Group Phase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20530913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11042159
                                                                                                                                                                                                               URL:http://fantom.gsc.riken.go.jp/.
                                                                                                                                                                                                                                         URL:http://genome.gsc.riken.go.jp/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10349636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             11076861
/db_xref="FANTOM_DB:9530081F05"
/db_xref="MGI:2399973"
/db_xref="taxon:10090"
                                                                                    strain="C57BL/6J"
                                                                                                                                    organism="Mus musculus"
                                                                                                                                                                                         ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         685-690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 based on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Genome
                                                                                                                                                                                                                                                                                                                                in Riken
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Exploration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   functional
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          II Team
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Carninci, P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ohsato, N.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 annotation
                                                                                                                                                                                                                                                                                                                                  ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
```

```
LOCUS
DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-029-345A-109_COPY_1_302 (1-302) x AK035652 (1-3325)
                                                            KEYWORDS
                                                                                           VERSION
                                                                                                                                                                                                                                  RESULT 15
BU946569/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score:
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       460
                                                                                                                                                                                                                                                                                                                                                                                                        161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       520
                                                                                                                                                                                                                                                                                                                                        940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21
                                                        8U946569
703769910J1 RALUTXL01 Rattus
8U946569
BU946569.1 GI:37701886
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          _
Rattus norvegicus
                            Rattus norvegicus (Norway
                                                                                                                                                                                                                                                                                                                                                                            ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLys 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGGCCCATGAGATGATTGGAAACTCAAATTGTTACTGAGAGCTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACTOTAGTCCCTACCTGCATATCTCAGCCTTGCCTACCTGTTGCGAACATTGGGCCAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTTGCAGGTGGCTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACTGCTTTCTCACTGTACTTCTGGGTAAACTGGAGAGGAGCTTCAACTCTGTCCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGCAATCAGAAGGTGGTAGTTTATGATCAAAGTTCCCAAGATGTTGGTTCTCTGTCGTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GACAAAGTATTAATTACAGAACTTATCCAACATTCTGCAAAGCATAAGGTTGACATTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAACTGATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGACCATTTGTGGAATACAATACGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /protein_id="BAC29138.1"
/db_xref="01:26330816"
/db_xref="01:26330816"
/translation="WAHEMIGTQIVTESLVALLESGTEKVLLIDSRPFVEYNTSHILE
/translation="WAHEMIGTQIVTESLVALLESGTEKVLLIDSRPFVEYNTSHILE
AININGSKLMKRRLQDKVLLTELIQHSAKHKVDIDCNQKVVVYDQSSQDVGSLSSDC
FLTVLLGKLERSFNSYHLLAGGFAEFSRCFPGLCEGKSTLVFTCISQPCLFVANIGFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RILPNLYLGCQRDVLNKVGASKHLSLCLSVASGKAAVVHYLSWNIL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            putative"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /dev_stage="adult"
460 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /tissue type="urinary bladder"
/clone_lib="RIKEN full-length of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2.34e-94
891.00
98.87%
97.74%
56.97%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                               bp mRNA
norvegicus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     enriched
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; TRUNCATED MAPK PHOSPHATASE Q96QS2, evidence: FASTY,
                                                                                                                                                                      CDNA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3325
173
2
2
0
                                                                                                                                                                                                      linear
                                                                                                                                                                      mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  mouse cDNA library"
                                                                                                                                                                      sequence
                                                                                                                                                                                                         EST 17-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 519
```

```
JOURNAL COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-029-345A-109_COPY_1_302 (1-302) x BU946569 (1-792)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bource
                                                                                                                                                                                                                                                                                                                                                                                                                                                   599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      141
                                                                                                                                                                                                                                                                                                                                                                           539
 240
                                    261
                                                                                                                                                 359
                                                                                                                                                                     221 ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                           419
                                                                                                                                                                                                                                             201 IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                   479
                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                 161 ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 euAlaGlyGlyPheAla-GluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       719 GGCTTTCTTCACTGTGCTTCTGGGTAAGCTGGAGAAGAGCTTCAACTCTGGTTCACCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           101 pCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSer-ValHisLeuL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 82 SerGlnLysValValVyrAspGlnSerSerGlnAspValAla-SerLeuSerSerAs 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3160 Porter Dr., Palo Alto, Tel: 6508454102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Unpublished (2003)
Contact: Fu GK
Incyte Genomics, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fu,G.K. and Stuve,L.L. An improved method for the construction of cDNA libraries for highly efficient DNA sequencing from the 3' end of expressed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rattus.
LygArgMetAspMetSerLeuAspGluAlaTyr 271
                                                                         CTGATCCACTGCTTGGCTGGGATCTCCCGCTCGGCCACCATTGCTATTGCCTATATCATG
                                                                                               LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                CC-TGGTTGGACAAGTCTGTGGATTTCATTGAGAAAAGCAAAAGCCTCCAACGGCTGTGTG
                                                                                                                                                                                                                         ATACCCGAATCTCACTTCCTGCGAGTGCCTGTGAATGACAGCTTTTGTGAGAAAATCCTG
                                                                                                                                                                                                                                                                                                CAACAGAACGGGATTGGCTATGTGCTAAATGCCAGCAACACCTGTCCAAAGCCTGACTTC
                                                                                                                                                                                                                                                                                                                         GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                           CGAATTCTTCCCAATCTCTATCTCGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACTOTAGTOCCTACCTGCATATOTCAGCCTTGCCTACCTGTTGCCAACACTGGGCCAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGCAGGTGGGTTTGCTTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTCAGAAGGTGGTAGTGTATGATCAGAGTTCCCAGGATGTGGTTCTCGGTCGTCAGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 792)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gfu@incyte.com.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /organism="Rattus norvegicus"
/mol_type="mRNA"
/db_xref="taxon:10116"
/tissue_type="Lung"
/clone_lib="RALUTXLO1"
/note="Rat, Lung, Clofibrate, 2)
sacrifice, SD, M/F, Pool"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4.09e-93
872.00
93.78%
92.23%
55.75%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94304, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               250 mg/kg,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        792
178
3
9
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12hr-day 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      160
                                                                                                              260
                                                                                                                                                                                    240
                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                              220
                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                    200
                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             720
                                                                         241
                                                                                                                                                 301
```

ş

밁

8 밁 ঠ

밁

중 음 중

ঠ 문 밁 ঠ 밁 ફ 뭐 ð 밁 S

Search completed: June 21, 2004, 23:33:32 Job time: 2267.97 secs

This Page Blank (uspto)

```
Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OM protein - nucleic search, using frame_plus_p2n model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Minimum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Run on:
                                                                                                                                                                                                                                                                                                          Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Maximum
                                                                                                ö
                                                                                                                                                   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB DB
                                                                                                Score
1564
1562
1552
1552
1552
1552
1552
1552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         geq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        length: 0
length: 2000000000
                                                                                                                                                                                                                                                                        N_Geneseq_29Jan04:*
1: geneseqn1980s:*
2: geneseqn1990s:*
3: geneseqn2000s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Xgapop 10.0
Ygapop 10.0
Fgapop 6.0
Delop 6.0
                                                                                               Query
Match
 100.0
99.2
99.2
99.2
99.2
99.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-029-345A-109_COPY_1_302
1564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    June 21, 2004, 19:56:46 ; Search time 334.168 Seconds
                                                                           100.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3373863 ведв,
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Maximum
Listing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MAHEMIGTQIVTERLVALLE......PNFNFLGQLLDYEKKIKNQT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                       geneseqn2000s:*
geneseqn2001as:*
geneseqn2001bs:*
geneseqn2002s:*
                                                                                                                                                                                                        geneseqn2003as:*
geneseqn2003bs:*
geneseqn2003cs:*
                                                                                                                                                                                              geneseqn2004s:*
                                                                                               Length
5450
5450
2118
2732
2732
3059
3104
3496
3544
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Match 100%
first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 •
                                                                                                멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Xgapext
Ygapext
Fgapext
Delext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2124099041 residues
                                                                  0 0
AAD09492
AAS15768
ABN59704
ABK47596
AAS14639
                                                   ACC60559
ACC60572
AAF30479
                                                                                                ij
                                                                                                                               SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     . . . . . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (without alignments)
3839.259 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6747726
         Aas15768
Abn59704
Abk47596
                                                    Acc60572
Aaf30479
                                                                                                Description
                                           Aad09492
                                                                           Acc60559
Polynucle
Polynucle
Human pro
Human SGP
CDNA sequ
Novel hum
CDNA enco
```

635	869	715.5	724	724	724	724	742.5	934.5	943	985	985	988	988	1194.5	1246	1492	1544	1544	1545	1552	1552	1552	1552	1552	1552	1552	1552	1552	1552	1552	1552	1552	1552	1552	1552	1552
0	44.6	45.7	46.3	46.3	46.3	46.3	7.	59.8	0	ü		Ü	ü		79.7	95.4	98.7	98.7	æ	œ.	9.		9	9.	٠	ق	ō.	ق.	9.	9.	٠	9.	۰	99.2	9	99.2
419	427	1917	461	461	461	418	1171	2415	2476	2453	2453	2377	2377	3332	749	2756	5111	2966	2102	5145	5145	5145	5145	5145	5145	5145	5145	5145	5145	5145	5145	5145	5145	4790	3766	4
σ	ហ	9	ທ	υ	ຫ											σ	σ	4	7	σ,	-		-	-	-	-					U	G	տ	9	6	σ
ABV32042	ABV10887	ADE07547	ABV41327	ABV32398	ABV40981	ABV11252	AAS72089	AAT86757	AAS31013	AAD41236	AAT86758	ABX10760	ACA64956	ABK48378 .	AAH06539	ACC60560	ACC60521	AAH99685	ADA53105	ABV26934	ABV22827	ABV28657	ABV27135	ABV26923	ABV27131	ABV26826	ABV21316	ABV21312	ABV21092	ABV20978	ABV26680	ABV21080	ABV20833	ABN83966	ABK14474	ABK49402
Abv32042 Human pro	Abv10887 Human pro	Novel	7 Human	Abv32398 Human pro	81 Human	Abv11252 Human pro	9 DNA er	7	w		œ	0	Aca64956 Human pro	Abk48378 cDNA enco	Aah06539 Human cDN	Polyn	21 Polynu		Human	Human	1 Human	/ Human	Human	Human	Human	Human	Human	? Human	92 Human	Human	Abv26680 Human pro	80 Human	3 Human	66 Human	Abk14474 Human pro	Abk49402 cDNA enco

ALIGNMENTS

RESULT 1 ACC60559 20-DEC-2000; 2000US-0256868P. 30-MAR-2001; 2001US-0280186P. 01-MAY-2001; 2001US-0287735P. 05-JUN-2001; 2001US-0295848P. Gene; ss; antiproliferative; hepatotropic; nephrotropic; antiarthritic; antiprolife; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart defect; ACC60559; ACC60559 standard; 20-DEC-2001; 2001WO-US050459 25-JUL-2002 WO200257460-A2 Homo sapiens. congestive heart Polynucleotide relating to the invention SEQ ID NO: 108. 19-JUN-2003 (BRIM) BRISTOL-MYERS SQUIBB CO (first 2001US-0300465P failure; CDNA; 5450 entry) cancer; ₽P human; mouse;

```
Alignment Scores:
Pred. No.:
Score:
Score:
Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-109_COPY_1_302 (1-302) x ACC60559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best I
Query
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates to a novel isolated nucleic acid comprising a C polynucleotide having a nucleotide sequence selected from 40 polynucleotides fully defined in the specification. The polynucleotide of C polynucleotide fully defined in the specification. The polynucleotide of the invention has antiproliferative, hepatotropic, nephrotropic, antiparthritic, antiproliferative, hepatotropic, and cytostatic activity. The C polynucleotide may have a use in gene therapy. A polynucleotide or C polypeptide of the invention is useful for preventing, treating or C ameliorating a medical condition, e.g. a proliferative disorder. They are C also useful for treating e.g. liver disease, renal failure, immunological disorders including arthritis and psoriasis, cardiovascular disorders such as congenital heart defects and congestive heart failure, and C cancer. A method of the invention is useful for diagnosing a pathological condition or susceptibility to a condition in a subject. The present experience is used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 1; Fig 13; 801pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Krystek
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Siemers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Jackson
                                                                         141
                                                                                                          898
                                                                                                                                       121
                                                                                                                                                                       838
                                                                                                                                                                                                        101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          el polynucleotides encoding human phosphatase polypeptides useful
prevention or treatment of e.g. proliferative and cardiovascular
                                                                                                                                                                                                                                        778
                                                                                                                                                                                                                                                                                                      718
                                                                                                                                                                                                                                                                                                                                                                     859
                                                                                                                                                                                                                                                                                                                                                                                                                                    598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    538
                                                                                                                                                                                                                                                                       81
                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                  42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21
                                                      ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                  LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                              CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                             GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                   AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                  AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp|
                                                                                                                                                                                                                                                                                                                                                                              HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                           GACAAAG
                                                                                                                                                                                                                                                                                                                                                           CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                        AGTGGAACGGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   s x g
                                                                                                                                                                                                                                                                                                                                                                                                                                           SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Feder J, Nelson T
Bol D, Schieven G,
Mcatee P, Suchard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BP; 1471 A; 1211
                                                                                                                                                                                                                                                                                          rettaattacagageteatecageatteagegaaacataagettgaeattgat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1.36e-176
1564.00
100.00%
100.00%
100.00%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nelson T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C; 1337 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mintier G, Ramanathan Finger J, Todderud CG, Banas D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1431 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (1-5450)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5450
302
0
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 C, Lee L;
Bassolino
 180
                                                                 160
                                  1017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'n
                                                                                                                                140
                                                                                                                                                               897
                                                                                                                                                                                                                            837
                                                                                                                                                                                                                                                           100
                                                                                                                                                                                                                                                                                                                                                                                                                                                         40
                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                             777
                                                                                                                                                                                                                                                                                                                          80
                                                                                                                                                                                                                                                                                                                                                           717
                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                          657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ij
```

Ş

Novel polynucleotides encoding human phosphatase polypeptides useful the prevention or treatment of e.g. proliferative and cardiovascular disorders.

Ħ

S 밁 Ş 밁 ð 밁 Ş Ъ 8 , B Ś 밁 Ś д δ

```
RESULT 2
ACC60572
ID ACC6
XX ACC6
AC ACC6
AX Gene
KW Gene
KW proll
KW immu
KW cong
OX Homo
XX WO20
PN 25-J
XX 20-D
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 30-M
PR 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뮰
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                              20-DEC-2000;
30-MAR-2001;
01-MAY-2001;
05-JUN-2001;
25-JUN-2001;
                                                                                                                                                                      Siemers
                                                                                                                                                                                         Jackson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gene; ss; antiproliferative; hepatotropic; nephrotropic; antiarthritic antipooriatic; cardiant; cytostatic; gene therapy; liver disease; proliferative disorder; renal failure; cardiovascular disorder; immunological disorder; arthritis; psoriasis; congenital heart defect; congestive heart failure; cancer; human; mouse; yeast; rat; fruitfly.
                                                                                                                                                                                                                                         (BRIM )
                                                                                                                                                                                                                                                                                                                                                                                                                  20-DEC-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              25-JUL-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200257460-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACC60572;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACC60572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19-JUN-2003
                                                                                 2002-599721/64.
DB; ABR52407.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                               s, DG,
                                                                                                                                                                                                                                     BRISTOL-MYERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        standard; cDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATATCTCCAAACTTCAATTTTCTCGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                            ; 2000US-0256868P.
; 2001US-0280186P.
; 2001US-0287735P.
; 2001US-0295848P.
; 2001US-0300465P.
                                                                                                                                          Feder J, Nelson T
Bol D, Schieven G,
Mcatee P, Suchard
                                                                                                                                                                                                                                                                                                                                                                                                              2001WO-US050459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      relating to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                entry)
                                                                                                                                                                                                                                  SQUIBB
                                                                                                                                                                                    Nelson T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the invention SEQ ID
                                                                                                                                                                                                                                     S
                                                                                                                                               ß
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₽₽
                                                                                                                                          Mintier G, Ramanathan C, Lee L;
Finger J, Todderud CG, Bassolino
, Banas D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        antiarthritic;
                                                                                                                                                               ŭ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           200
```

```
유 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                              ફ
                                                                                                                                                                                                                                                                                                                                                                                                        ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                     ঠ
                                                                                                                     문
                                                                                                                                                                                                 밁
                                                            몽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          polynucleotide having a nucleotide sequence selected from 40 polynucleotides fully defined in the specification. The polynucleotide of the invention has antiproliferative, hepatotropic, nephrotropic, antiarthritic, antipsoriatic, cardiant, and cytostatic activity. The polynucleotide may have a use in gene therapy. A polynucleotide or polynucleotide or polynucleotide or polynucleotide or polynucleotide or a proliferative disorder. They are ameliorating a medical condition, e.g. a proliferative disorder. They are also useful for treating e.g. liver disease, renal failure, immunological disorders including arthritis and psoriasis, cardiovascular disorders such as congenital heart defects and congestive heart failure, and cancer. A method of the invention is useful for disgnosing a pathological condition or susceptibility to a condition in a subject. The present sequence is used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 5450 BP; 1471 A; 1211 C; 1337 G; 1431 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to a novel isolated nucleic acid comprising
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example
                                                               1078
                                                                                                                               1018
                                                                                                                                                                 161
                                                                                                                                                                                                                                                                      868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    538
                                                                                                                                                                                                   958
                                                                                                                                                                                                                                   141
                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                        101
                                                                                                                                                                                                                                                                                                                                                                                                            778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 658
                                                                                                                                                                                                                                                                                                                                                                                                                                          18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7;
                                                                                                                                                                                                                                                                                                                                                                                                                                      CysSerGlnLysValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MetAlaHisGluMetIleGlyThrGlnileValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                            AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                   IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                 GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                   CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATA
                                                                                                                                                       ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                        ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                      CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                            LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                        GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                            GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                               CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCTATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fig 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1.36e-176
1564.00
100.00%
100.00%
100.00%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      801pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      x ACC60572 (1-5450)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5450
302
0
                                                               1137
                                                                                                                                   1077
                                                                                                                                                                                                     1017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      597
                              220
                                                                                                 200
                                                                                                                                                                   180
                                                                                                                                                                                                                                     160
                                                                                                                                                                                                                                                                      957
                                                                                                                                                                                                                                                                                                      140
                                                                                                                                                                                                                                                                                                                                          897
                                                                                                                                                                                                                                                                                                                                                                                                            837
                                                                                                                                                                                                                                                                                                                                                                                                                                             100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    40
```

```
RREULT 3
AAF30479
ID AAF33
XX AAF3347
AC AAF33
XX Prot
XX Prot
XX Prot
XX Prot
XX Prot
XX Cell
XX Cell
XX Key
FT CDS
FT misc
FT misc
FT misc
FT T misc
FT T Tobs
FT T Tobs
FT T Tobs
FT T Tobs
FT T Tobs
FT T Tobs
FT T Tobs
FT T Tobs
FT T Tobs
FT T Tobs
FT T Tobs
FT T Tobs
FT T Tobs
FT T Tobs
FT T Tobs
FT T Tobs
FT T Tobs
FT T Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT Tobs
FT 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                          Novel human protein phosphatase and kinase proteins for diagnosis, treatment and prevention of gastrointestinal, immune system, neuro and cell proliferative disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Protein phosphatase and kinase protein; PPHKP-4; human; gastrointestinal disorder; immune system disorder; neurological cell proliferative disorder; cancer; diagnosis; therapy; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAF30479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          29-MAY-2001
                                                                                                                    Claim
                                                                                                                                                                                                                                                         P-PSDB; AAB20325
                                                                                                                                                                                                                                                                                                                            Lu DAM
                                                                                                                                                                                                                                                                                                                                                  Yue H,
                                                                                                                                                                                                                                                                                                                                                                                                (INCY-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14-SEP-2000; 2000WO-US025515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200120004-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1258
                                                                                                                                                                                                                                                                              2001-244811/25.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      221
                                                                                                               5; Page 97-98; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                Tang
                                                                                                                                                                                                                                                                                                                                                                                                INCYTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LysargMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGACT 1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                  YT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            phosphatase and kinase protein-4 cDNA 1234795CB1
                                                                                                                                                                                                                                                                                                                                                                                                GENOMICS INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                              99US-0154141P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /*tag= a
163. .222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /*tag= b
/note= "unique fragment"
1081. .1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25. .2025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note= "unique fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                  Bandman O,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDNA; 2118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          entry)
                                                                                                                                                                                                                                                                                                                                                     Hillman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ΒP
                                                                                                                                                                                                                                                                                                                                                     JĽ,
                                                                                                                                                                                                                                                                                                                                                  Baughn
                                                                                                                                                                                                                                                                                                                                                     ₹
,
                                                                                                                                                                                     system, neurological
                                                                                                                                                                                                                                                                                                                                                     Azimzai
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
```

The present sequence is that of cDNA encoding novel human protein phosphatase and kinase protein PPHKP-4 (see AAB20325). The cDNA was initially identified in Incyte Clone ID No. 1234795CB1, from a foetal lung tissue library. Tissues that express PPHKP-4 (as a fraction of t

of total

```
Best Local Si
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alignment
Pred. No.:
Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-029-345A-109_COPY_1_302 (1-302) x AAF30479 (1-2118)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6666666666666666888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tissues expressing PPHKP-4) include gastrointestinal (0.385), cardiovascular (0.154), nervous (0.154) and reproductive (0.154). Diseases or conditions associated with tissues expressing PPHKP-4 (as a fraction of total tissues expressing PPHKP-4) include cancer (0.692), inflammation or trauma (0.308) and cell proliferation (0.231). The encoded protein shows homology to mouse neuronal tyrosine threonine phosphatase 1. The invention provides human PPHKP-1 to -11 polypeptides (see AAB20322-32) and polymucleotides (see AAB70476-86). It also provides expression vectors, host cells, antibodies, agonists and antagonists, as associated with expression of PPHKP, including gastrointestinal disorders, immune system disorders, neurological disorders and cell proliferative disorders, including cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            No.:
                                                                                                          201
                                                                                                                                          565
                                                                                                                                                                                                      505
                                                                                                                                                                      181
                                                                                                                                                                                                                                   161
                                                                                                                                                                                                                                                                     445
                                                                                                                                                                                                                                                                                                   141
                                                                                                                                                                                                                                                                                                                                 385
                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                325
                                                                                                                                                                                                                                                                                                                                                                                                                            101
                                                                                                                                                                                                                                                                                                                                                                                                                                                            265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Н
CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCCAATGGATGTGTT
                     ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                GlnGlnAenGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysBroLysBroAspPhe
                                                                                  | IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                          CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                               ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                          ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                         c GAATT CTT CCAAT CTTATCTT GGCT GCCAGCGAGAT GT CCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                       acreragiceraceracearrices ageeringer racer greek acarrige exectance
                                                                                                                                                                                                                                                                                                                                CTTGCAGGTGGG
                                                                                                                                                                                                                                                                                                                                        LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                        GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                recaercaeaaerreraerraeearcaaaerreceaaearerrecerererea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACAAAGTGTTAATTTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp|
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CACATTTTGGAAGCCÁTTAATÁTCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BP;
                                                    8.75e-176
1552.00
99.67%
99.34%
99.23%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   550 A; 552 C;
                                                                                                                                                                                                                                                                                                                     recteaetretetretreceteeeeretetaaegaaaatee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 G; 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ή,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2118
300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0 Other;
                                240
                                                              684
                                                                                              220
                                                                                                                            624
                                                                                                                                                          200
                                                                                                                                                                                          564
                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                       160
                                                                                                                                                                                                                                                                                                                                                     140
                                                                                                                                                                                                                                                       504
                                                                                                                                                                                                                                                                                                                     444
                                                                                                                                                                                                                                                                                                                                                                                    384
                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                               324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20
```

В δ 밁 Ś 밁 Ś В Ś

밁 Ś 밁 Ş 밁 Ş В Ś 밁 Ş 뭐 Ś 문 Ś 밁 Ş

The present

invention

relates to

phosphatase

polypeptides,

nucleotide

29;

Fig 1; 186pp;

English.

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                   Plowman G
Hill RJ,
                                                                                                                                                                        21-DEC-1999;
28-DEC-1999;
25-JAN-2000; 20
31-JAN-2000; 20
                                   Novel phosphatase polypeptide useful for treating candiseases and disorders, cardiovascular disease, brain associated diseases and metabolic disorders.
                                                                                    P-PSDB;
                                                                                                                                                                                                                                                                                                                                                                infection; diabetes; pain; sexual dysfunction; Alzheimer's disease; metabolic disorder; haematopoietic cancer; mood disorder; cardiant; parkinson's disease; multiple sclerosis; amyotrophic lateral sclerosis; cardiovascular disease; brain; neuronal-associated disease; dyskinesia; attention disorder; cognition disorder; psychotic disorder; cytostatic; neurological disorder; virucide; nootropic; cerebroprotective; therapy; hypotensive; amtibacterial; vulnerary; tranquilliser; antiasthmatic; antifungal; dual specificity phosphatase; DSP; MAP kinase phosphatase; MKP; migraine; chromosome 12p11.1-p12.1; ds.
                                                                                                                                                                                                                               21-DEC-2000;
                                                                                                                                                     (SUGE-)
                                                                                                                                                                                                                                                                         WO200146394-A2
                                                                                                                                                                                                                                                                                                                                                       ното
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; SGP002 phosphatase polypeptide; immune-related disorder; ocular disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human SGP002 phosphatase polypeptide encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAD09492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAD09492;
                                                                                   2001-418058/44.
DB; AAE04834.
                                                                                                                                                                                                                                                                                                                                                     sapiens.
                                                                                                        1 GD, Fu.
J, Flanagan)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                    SUGEN INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cradideacridiriaderidedarerecedereedeeacearedratederiaeaceracareare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Martinez
lanagan P;
                                                                                                                                                                        ; 99US-0173255P.
; 99US-0175766P.
; 2000US-0178078P.
; 2000US-0179301P.
                                                                                                                                                                                                                              2000WO-US034736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                    Location/Qualifiers 538. .2535
                                                                                                                                                                                                                                                                                          /product= "Human SGP002 phosphatase polypeptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               930
                                                                                                                             ₽,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2732
                                                                                                                            Whyte
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     묭
                                                                                                                            à
                                                                                                                          Manning
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            phosphatase-related disease;
                                                                                                                          <sub>ω</sub>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA.
                                                                                                                          Sudarsanam
                                           cancers, immune-
rain or neuronal-
                                                        immune-related
                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          804
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                      밁
                                                                                                                                                                ર્શ
                                                                                                                                                                                                                                               ঠ
                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CC sequences encoding them, as well as various products and methods useful CC for the diagnosis and treatment of various phosphatase-related diseases CC and conditions. Substance that modulates the activity of phosphatase CC polypeptide is used to treat immune-related diseases and disorders, (and disease, brain or neuronal-associated diseases and CC cardiovascular disease, brain or neuronal-associated diseases and CC haematopoletic origin, diseases of central and peripheral nervous system, CC haematopoletic origin, diseases of central and peripheral nervous system, CC lateral sclerosis, viral infections, infections caused by prions, CC lateral sclerosis, viral infections, infections caused by prions, CC bacteria and fungi, ocular diseases, diabetes, migraines, pain, sexual CC dysfunction, mood disorders, attention disorders, cognition disorders, hypotension, hypertension, psychotic disorders, neurological disorders, CC dyskinesias and organ transplant rejection. The present sequence is a DNA CC classified as dual specificity phosphatase (DSP) and MAP kinase CC classified as dual specificity phosphatase (DSP) and MAP kinase CC phosphatase (MKP). SGP002 gene maps to chromosomal position 12p11.1-p12.1
    ð
                                                       밁
                                                                                  ર્ફ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 2732 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          М
..
                                                                                                                                       1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  598
                                                                                                                                                                               161
                                                                                                                                                                                                                                                           141
                                                                                                                                                                                                                                                                                                    898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   718
                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                  838
                                                                                                                                                                                                                                                                                                                                                                                                                        101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         41 HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21
IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                              GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                       CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                            ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                               ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                             LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                           AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                     ACTOTAGTOCOTACOTGCATTTOTCAGCOTTGCTTACOTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   710 A; 684 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1.3e-175
1552.00
99.67%
99:34%
99:34%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   686 G; 652 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               x AAD09492 (1-2732)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2732
300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       004
                                                                                                                                       1077
                                                                                                                                                                                                                       1017
                220
                                                         1137
                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                            140
                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        40
                                                                                               200
                                                                                                                                                                                                                                                           160
                                                                                                                                                                                                                                                                                                    957
                                                                                                                                                                                                                                                                                                                                                                                    897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   717
```

ર્

밁

cardiac myotrophies, asthma,

immune disorders

```
ARBSULT 5
ARASIT 5
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
ARASIT 6
AR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                     The present invention relates to a new isolated dual specificity phosphatase (DUSP10) polypeptide, comprising a 665 residue amino acid sequence that is fully defined in the specification. The invention also provides a sequence encoded by a 3059 nucleotide sequence fully defined in the specification, and a sequence having at least 95 % identity to the polypeptide, or fragments or variants of DUSP-10. The invention is useful for treating cancer e.g. leukaemia, colon carcinoma, lung cancer, prostate cancer, metastasis of tumour cells, neo-angiogenesis, epilepsy, stroke, neuronal degeneration syndromes, Alabeimer's disease, depression, stroke, neuronal degeneration syndromes, Alabeimer's disease, depression,
                                                                                                                                                                                                                                                                                                                                                                                        Novel dual specificity phosphatase polypeptides useful for treating cancers, epilepsy, stroke, neuronal degeneration syndromes, Alzheimer's disease, depression, schizophrenia, asthma and immune disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                neuronal degeneration syndrome; Alzheimer's disease; depression; schizophrenia; asthma; immune disorder; inflammatory process; ar osteoporosis; diabetes; gene therapy; chromosome 12; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAS15768;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10-APR-2000; 2000EP-00107143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          06-APR-2001; 2001WO-EP003966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200177340-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; dual specificity phosphatase; DUSP-10; cancer; epilepsy; stroke;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cDNA sequence of human (dual specificity phosphatase)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAS15768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (MERE ) MERCK PATENT GMBH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2002-010917/01.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAU09946.
                                                                                                                                                                                                                                                                                                                                Page 34-37; 43pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LeuValHisCYsLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /product= "DUSP-10 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3059
                                                                                                                                                                                                                                                                                                                                   English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DUSP-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  260
```

```
Alignment
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     inflammatory processes e.g. arthritis, bowel disease, type I diabetes, osteoporosis, diabetes and diabetes associated diseases. The molecules of the invention are also useful as vaccines for inducing immunological response in a mammal, in disease diagnosis and in assays for screening agonistic or antagonistic compounds. Other uses of the invention include identifying membrane bound or soluble receptors, as a diagnostic reagent, expression studies. The present sequence represents cDNA of the human dual specificity phosphatase, DUSP-10. DUSP-10 is located on chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                       787
                                                                                     221
                                                                                                                    727
                                                                                                                                                  201
                                                                                                                                                                                667
                                                                                                                                                                                                             181
                                                                                                                                                                                                                                              607
                                                                                                                                                                                                                                                                                                         547
                                                                                                                                                                                                                                                                          161
                                                                                                                                                                                                                                                                                                                                       141
                                                                                                                                                                                                                                                                                                                                                                      487
                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              щ
LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaTleAlaTyrIleMet
                                               CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                 ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                          ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                              | IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                      CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                        GlnGlnAsnGlyIleGlyTyrvalLeuAsnAlaSerTyrThrCysDroLysDroAspPhe
                                                                                                                                                                                                                                                                                                                                                                                LeuAlaGlyGlyPheAlaGluPhcSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                   CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                        ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                     ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                            CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                        GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                             AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGTOGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B₽;
                                                                                                                                                                                                                                                                                                 CCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.54e-175
1552.00
99.67%
99.34%
99.23%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                831 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ç,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     x AAS15768 (1-3059)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u>و</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0 U;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0 Other;
                  260
                                               846
                                                                             240
                                                                                                                                        220
                                                                                                                                                                                                                                   666
                                                                                                                                                                                                                                                                  180
                                                                                                                                                                       726
                                                                                                                                                                                                                                                                                                 909
                                                                                                                                                                                                                                                                                                                               160
                                                                                                                                                                                                                                                                                                                                                                                          140
                                                                                                                                                                                                                                                                                                                                                                                                                         486
                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                              546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      186
```

밁 Ś 밁 8

Ś

밁 Ş 밁 Ś 밁 ş 문 Ś

문 S 밁 S 밁

δ 문 Ś 뮍 Ś 밁 Ş

Percent Similarity:
Best Local Similarity:
Query Match:
DB:

1.58e-175 1552.00 99.67% 99.34% 99.23%

Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:

3104 300 1 1 0

No.:

3104

B₽;

845

Ą; 772

Ç 718

ç,

769 T,

0 U; 0 Other

```
RESULT 6
ABM59704
ID ABM59704
ID ABM59704
ID ABM5
AC AEM5
AC AEM5
XX Huma
ID Nove
XX Huma
KW Huma
KW expr
XX Homo
PN WO20
XX Homo
XX Homo
PN I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I-S
XX I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 맑
                                                            The present invention provides the protein and coding sequences of 444 novel human proteins. These were isolated from expressed sequences tags (ESTs). They can be used to stimulate cell growth, to regulate haematopoiesis e.g. to treat aplastic anaemia, to help tissue regrowth e.g. in burn treatment, to regulate the immune system e.g. to treat multiple sclerosis, to regulate activin or inhibin e.g. to treat infertility, to regulate haemostasis or thrombolysis e.g. to treat and cancer, to screen for drugs, to treat inflammatory conditions e.g. rheumatoid arthritis, and to treat nervous system disorders e.g. Parkinson's disease. The present sequence is a coding sequence of the
                                                                                                                                                                                                                                                                                                                                                                                   Claim 1;
                                                                                                                                                                                                                                                                                                                                                                                                                        An isolated polynucleotide for treating diseases associated encoded polypeptide such as cancer and multiple sclerosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11-SEP-2000; 2000US-00659671.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10-SEP-2001; 2001WO-US026015.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; antianaemic; vulnerary; antiinflammatory; immunomodulato; antiinferrility; cerebroprotective; cytostatic; rheumatic; gene neuroprotective; antiparkinsonian; protein therapy; EST;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200222660-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            expressed sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel human coding sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABN59704;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABN59704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ĀJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2002-292408/33.
DB; ABB97291.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            L027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HYSEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Liu
Yang
                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 115; 509pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       standard; cDNA; 3104 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCACCATCGCCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAAGAAAAAAACACCTACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Zhou P,
Wehrman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tag;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Asundi V, T, Drmanac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Zhang
RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Zhao
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   immunomodulator;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ren
                                                                                                                                                                                                                                                                                                                                                                                                                                                        with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ቹ
'-
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1026
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            966
```

```
RESULT 7
ABK47596
ID ABK4
XX
AC ABK4
XX
                                                                                밁
                                                                                                  ð
                                                                                                                        망
                                                                                                                                             8 8 8
                                                                                                                                                                                                                    음. 성 음
                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                      5
                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                        ક
                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 유 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               중 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઈ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-029-345A-109_COPY_1_302 (1-302) x ABN59704 (1-3104)
            ABK47596
                                  ABK47596 standard; cDNA;
                                                                                                     301
                                                                                                                               999
                                                                                                                                                                                                                                                                          819
                                                                                                                                                                                                                                                                                                                                                                      699
                                                                                                                                                                                                                                                                                                                                                                                                                     639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    519
                                                                                                                                                    281
                                                                                                                                                                                                    261
                                                                                                                                                                                                                                                                                                 221
                                                                                                                                                                                                                                                                                                                        759
                                                                                                                                                                                                                                                                                                                                                201
                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                            161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         41 HisīleLeuGluAlaīleAsnīleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21
                                                                                                        GlnThr
                                                                                                                                           IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                          LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                        LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                          CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                      ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                       IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                      CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                     GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                    ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACTOTAGTOCOTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAgnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cy8SerGlnLy8ValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                             ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                    CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTIGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              302
                                                                                                                                                                                                                           GTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                    쁌
                                                                                                                                                    300
                                                                                                                                                                                                                                                                          878
                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                        818
                                                                                                                                                                                                                                                                                                                                                                                             200
                                                                                                                                                                                                                                                                                                                                                                                                                     869
                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                40
                                                                                                                                                                            998
                                                                                                                                                                                                                           938
                                                                                                                                                                                                                                                   260
                                                                                                                                                                                                                                                                                                                                               220
                                                                                                                                                                                                                                                                                                                                                                     758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         218
```

```
mitogen-activated protein kinase; MAP; Duchenne muscular dystrophy; cancer; graft-versus-host disease; allergy; metabolic disease; abnormal cell growth; abnormal cell proliferation; contact inhibition; cell cycle abnormality; anchorage independent cell growth; apoptosis; intercellular adhesion; DSP-16 modulator; chromosome 12p; gene; ss.
                                                                                                                                                                                                                                        Luche
                                                                                                                                                                                                                                                                         26-SEP-2000; 2000US-0235487P
                                                                                                                                                                                                                                                                                         25-SEP-2001; 2001WO-US030124
                                                                                                                                                                                                                                                                                                                           WO200226997-A2.
                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       encoding
                                                                                                                                                                                                                2002-315802/35.
)B; AAU79156.
                                                                                                                                                                                                                                        25
                                                                                                                                                                                                                                                                                                                                                                                                                                                     dual-specificity phosphatase-3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       human
                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers 562. .2559
                                                                                                                                                                                                                                                                                                                                            protein"
                                                                                                                                                                                                                                                                                                                                                           /*tag=
                                                                                                                                                                                                                                                                                                                                                    /product= "Human dual-specificity phosphatase-3 (DSP-16)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       dual-specificity phosphatase-3 (DSP-16) protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                      DSP-16; autoimmune
```

New DSP-16 polypeptide, useful for identifying modulators of it activity, which can be used in the treatment of disorders such Duchenne muscular dystrophy, õ cancer.

Claim 7; Fig 1; 87pp; English.

CC The present invention relates to a new polypeptide, DSP-16, having a 665 clamino acid sequence, given in the specification, or a variant having at CC least 50 % identical residues, which retains the ability to CC dephosphorylate an activated mitogen-activated protein (MAP) kinase. The CC invention can be used for identifying agents which modulate DSP-16 cc activity, for modulation of a proliferative response in a cell, survival CC of a cell, or differentiation of a cell. The cell displays contact CC inhibition of cell growth or anchorage independent growth and may display CC altered intercellular adhesion. The agent may modulate apoptosis, or the CC cell cycle. The identified modulators can be used to treat Duchenne CC muscular dystrophy, cancer, graft-versus-host disease, autoimmune CC diseases, allergies, metabolic diseases, abnormal cell growth, abnormal CC cell proliferation, and cell cycle abnormalities. The present nucleic CC acid sequence is that of the human dual-specificity phosphatase-3 (DSP-CC 16) gene located on chromosome 12p. This sequence encodes the human DSP-CC 16 protein of the invention

Sequence 3496 BP; 939 A; 854 Ç 856 <u>ଦ</u> 847 Ή, 0 U; 0 Other;

```
Alignment
Pred. No.:
밁
                   S
                                    US-10-029-345A-109_COPY_1_302 (1-302)
                                                           Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                      Score:
                                                                                                                  Х
О
::
562
                   μ
        MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                            1.9e-175
1552.00
99.67%
99.34%
99.23%
                                        x ABK47596
                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                        (1-3496)
```

```
RESULT 8
AAS14639
ID AAS1
XX AAS1
AC AAS1
XC AAS1
XX Huma
XX Huma
XX Huma
XX hema
XX rheu
                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
Human; ss; dual specificity phosphatase 21117; hepatotropic; cytostatic; hematopoietic disorder; autoimmune disorder; diabetes mellitus; rheumatoid arthritis; multiple sclerosis; Crohn's disease;
                                                           Human cDNA encoding
                                                                                        18-DEC-2001
                                                                                                                   AAS14639
                                                                                                                                           AAS14639
                                                                                                                                                                                                  1462
                                                                                                                                                                                                                                                      1402
                                                                                                                                                                                                                                                                                                                                                             1282
                                                                                                                                                                                                                                                                                                          1342
                                                                                                                                                                                                                                                                                                                                                                                                                1222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1042
                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                               281
                                                                                                                                                                                                                                                                                                                                  261
                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                           221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21
                                                                                                                                                                                                                                                                                                                  LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                        standard; cDNA; 3544
                                                                                                                                                                                                CAGACT 1467
                                                                                                                                                                                                                        GlnThr 302
                                                                                                                                                                                                                                              ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                             CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                          LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                           CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                             ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLyBSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp|
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HislleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGTGGAAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                     (first
                                                      dual specificity phosphatase 21117.
                                                                                     entry)
                                                                                                                                          ВP
                                                                                                                                                                                                                                               1461
                                                                                                                                                                                                                                                                                                    1401
                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                            280
                                                                                                                                                                                                                                                                                                                                                      1341
                                                                                                                                                                                                                                                                                                                                                                                260
                                                                                                                                                                                                                                                                                                                                                                                                           1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                              1221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             40
```

S

```
Claim 1; Fig 1; 143pp; English.
                                                                                                                                                                                                         New human dual
                                                                                                                                                                                                                               WPI; 2001-611635/70.
                                                                                                                                                                                                                                                                                                                                                                                   Homo
                                                                                                                                                                                                                        P-PSDB; AAU09016.
                                                                                                                                                                                                                                                Meyers
                                                                                                                                                                                                                                                                             24-MAR-2000; 2000US-0191858P
                                                                                                                                                                                                                                                              (MILL-) MILLENNIUM PHARM INC
                                                                                                                                                                                                                                                                                             23-MAR-2001; 2001WO-US009477
                                                                                                                                                                                                                                                                                                                            WO200173059-A2
                                                                                                                                                                                                                                                                                                                                                                                               liver disorder; erythroid associated disorder; haemolytic anaemia; cellular proliferative; differentiative disorder; leukaemia; acute myeloid leukaemia; carcinoma; sarcoma; metastatic cancer.
                                                                                                                                                                                                 disease and treatment
                                                                                                                                                                                                                                                                                                                                                                                  sapiens.
                                                                                                                                                                                             specificity polypeptides and nucleic acids for diagnosis treatment of e.g. liver disorders.
                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
589. .2586
/*tag= a
                                                                                                                                                                                                                                                                                                                                         /product= "Dual specificity phosphatase 21117"
```

The invention relates to two novel human dual specificity phosphatases CC designated 21117 and 38692, the nucleic acids encoding them (including fragments, allelic variants, their complements or nucleic acids that CC hybridise to them) and antibodies raised against the proteins. The CC antibody is useful for detecting the presence of the polypeptide, and the CC nucleic acid, for diagnosing disease. Agents (e.g. the antibody and CC nucleic acid, for diagnosing disease. Agents (e.g. the antibody and CC antisense sequences) are useful for modulating the activity or expression of the polypeptide/nucleic acid, useful for the treatment of e.g. hematopoietic disorders, autoimmune disorders (e.g. diabetes mellitus, CC instead in the specification) liver disorders (e.g. diabetes mellitus, CC instead in the specification) liver disorders (e.g. diabetes mellitus, CC disorders (e.g. haemolytic anaemia) cellular proliferative or differentiative disorders, leukaemias (e.g. acute mysloid leukaemia), CC carcinomas, sarcomas, metastatic cancers. Agents modulating 21117 and CC 38692 are also useful for modulating the proliferation, survival, CC migration or differentiation of a 38692 or 21117-expressing cell. The CC agents. The present sequence encodes the dual specificity phosphatase

Sequence 3544 BP; 1000 A; 840 Ç 822 Ģ 882 T; 0 U; 0 Other,

Alignment

밁 S 밁 S 밁 Ś

```
밁
     Ş
                                              Ś
                                                                       밁
                                                                                          δ
                                                                                                           US-10-029-345A-109_COPY_1_302 (1-302) x AAS14639 (1-3544)
                                                                                                                                         Query Match:
DB:
                                                                                                                                                           Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                Pred. No.:
                            649
                                                                        589
                                                21
                                                                               HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                    SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                       AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                  ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                       1.94e-175
1552.00
99.67%
99.34%
99.23%
                                                                                                                                               Conservative: Mismatches: Indels:
                                                                                                                                    Gaps:
                                                                                                                                                                                 Length:
Matches:
                                                                                                                                      0011
                                                                   648
                       708
                                             40
                                                                                       20
```

41

```
RESULT 9
ABK49402
ID ABK4
XX
AC ABK4
XX
DT 02-J
XX
DT 02-J
XX
Huma
XX
Huma
XX
KW Huma
KW Huma
KW eryt
XX
COS Homc
XX
EH Key
FT CDS
                                                                                                                                                                                                밁
                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                       ঠ
                                                                                                                                                                                                                                                                                                                                                                            ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                ş
                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                     ર્શ
                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                               Homo
                                                 Human; dual specificity phosphatase 21117; erythroid-related disorder; haematopoietic-related disorder; leukaemia; autoimmune disease; anaemi erythrocytosis; liver-related disorder; cancer; gene; ss.
                                                                                        cDNA encoding
                                                                                                               02-JUL-2002
                                                                                                                                  ABK49402;
                                                                                                                                                       ABK49402 standard; cDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1129
                                                                                                                                                                                                                                       1429
                                                                                                                                                                                                                                                                                                                       1309
                                                                                                                                                                                                                                                                                                                                                                1249
                                                                                                                                                                                                                                                                                                                                                                                                         1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1009
                                                                                                                                                                                                                                                                                1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                               варіепв
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     141
                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                            281
                                                                                                                                                                                                                                                                                                   261
                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                     221
                                                                                                                                                                                                                                                                                                                                                                                                                             201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                            GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                              CAGACT 1494
                                                                                                                                                                                                                  GlnThr 302
                                                                                                                                                                                                                                       ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGATTAAGAAC
                                                                                                                                                                                                                                                    IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                            LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                       CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                    LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                             ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                        ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                    | IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                               AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAAGAAAAAAAGACCTACT
                                                                                                              (first
                                                                                          human
 Location/Qualifiers 589. .2586
                                                                                        dual specificity phosphatase 21117 protein.
                                                                                                              entry)
                                                                                                                                                       3544
                                                                                                                                                       ВP
                                                                                                                                                                                                                                                                               1428
                                                                                                                                                                                                                                                                                                                       1368
                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100
                                                                                                                                                                                                                                       1488
                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                   280
                                                                                                                                                                                                                                                                                                                                            260
                                                                                                                                                                                                                                                                                                                                                                1308
                                                                                                                                                                                                                                                                                                                                                                                                         1248
                                                                                                                                                                                                                                                                                                                                                                                                                             220
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            768
                                                                                                                                                                                                                                                                                                                     Alignment
Pred. No.:
Score:
                          8
                                                 밁
                                                                 δ
                                                                                        밁
                                                                                                         Ś
                                                                                                                                 밁
                                                                                                                                                 Ś
                                                                                                                                                                         밁
                                                                                                                                                                                           Ś
                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                Sequence 3544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cancers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Meyers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (MEYE/) MEYERS
                                                                                                                                                                                                                                                                                                                                   М
::
          688
                              101
                                                  829
                                                                                                                                  709
                                                                                                                                                                          649
                                                                                                                                                                                                                   589
                                                                                         769
                                                                     18
                                                                                                            61
                                                                                                                                                    41
                                                                                                                                                                                             21
                                                                                                                                                                                                                                       _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        æ
          GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
```

```
New nucleic acids, designated 38692 and 21117, encoding dual specificity phosphatases for treating cell proliferation and differentiation disorders including hematopoietic and erythroid-related disorders and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US2002034807-A1.
                                                                                                                      P-PSDB; AAU79929.
                                                                                                                                                                                                                                                                                                                               24-MAR-2000; 2000US-0191858P
                                                                                                                                                                                                                                                                                                                                                                                   23-MAR-2001; 2001US-00816494
                                                                                                                                                  2002-351088/38.
                                                                                                                                                                                                                                                                     æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag= a
/product= "Human dual specificity phosphatase
/prote= "Specifically claimed in claim 2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21117"
```

The present invention relates to new nucleic acids designated 38692 and 21117 encoding dual specificity phosphatase family members. The nucleic acid, polypeptide encoded by it, and antibody specific for the polypeptide may be used to diagnose and treat haematopoletic-related disorders such as leukaemias and autoimmune diseases, erythroid-related disorders such as anaemias and erythrocytosis, liver-related disorders, and cancers, particularly of the breast, colon, adipose, prostate and lung. The present nucleic acid sequence encodes the human dual specificity phosphatase 21117 protein of the invention, as described Claim 2; Fig 1; 76pp; English.

в**р**; 1000 A; 840 Ç 822 ଦ 882 H 0 U; 0 Other;

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-029-345A-109_COPY_1_302 (1-302)
AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu 120
                                                                                                                                                                                                                                                                 HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                               SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                        MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                               GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                               ATGGCCCATGAGATGGATTGGAAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                  CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                        AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                    CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1.94e-175
1552.00
99.67%
99.34%
99.34%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 x ABK49402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (1-3544)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               00+
```

888 100 828 90 768 60 708 40 648

```
RESULT 10
ABK14474
ID ABK14474
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
AC ABK14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  청 음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human; protein phosphatase 7; PP7; immune system disorder; AIDS; acquired immunodeficiency syndrome; thymic hypophasia; anaemia; asthma; crohn's disease; neurological disorder; epilepsy; Huntington's disease; dementia; Parkinson's disease; developmental disorder; Down's syndrome; cell proliferative disorder; cancer; adenocarcinoma; leukaemia; lymphom
28-JUL-2000; 2000US-0221679P.
03-AUG-2000; 2000US-0223272P.
10-AUG-2000; 2000US-0224309P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABK14474
                                                                                                     26-JUL-2001; 2001WO-US023716
                                                                                                                                                                                                             WO200210363-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               201
                                                                                                                                                                                                                                                                                                                                                                                          sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          standard; cDNA; 3766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LysargMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <u>AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAAGAAAAAAAGACCTACT</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                       myeloma sarcoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     phosphatase 7 (PP7) cDNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1494
                                                                                                                                                                                                                                                                                                             Location/Qualifiers 538. .2535
                                                                                                                                                                                                                                                          /*tag= a
/product= "Protein_phosphatase_7_(PP7)"
                                                                                                                                                                                                                                                                                                                                                                                                                                          gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1308
```

```
The present invention relates to a new polypeptide, a naturally occurring amino acid sequence at least 95 % identical to it, a biologically active fragment of it or an immunogenic fragment of it. The polypeptides, polynucleotides, agonists and antagonists are useful for diagnosing, treating or preventing disorders associated with aberrant expression of provening disorders associated with aberrant expression of treating or preventing disorders associated with aberrant expression of provening disorders e.g. acquired immunodeficiency syndrome (AIDS), thymic hypoplasia, anaemia, asthma or Crohn's disease, neurological disorders e.g. epilepsy. Huntington's disease, dementia or Parkinson's disease, developmental disorders e.g. bown's syndrome, or cell proliferative disorders e.g. cancers including adenocarcinoma, leukaemia, lymphoma, melanoma, myeloma or sarcoma. The present nucleic acid sequence encodes human protein phosphatases (PPP) which is one of several human protein phosphatases (AAU75783-AAU75792) of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18-AUG-2000; 2000US-0226728F
30-AUG-2000; 2000US-0229254F
08-SEP-2000; 2000US-0231366F
                                                                                                                                                                                                                                                                                                                                     New protein phosphatases, useful for diagnosing, treating or immune system disorders (e.g. Crohn's disease), neurological (e.g. Parkinson's disease), or cell proliferative disorders
                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2002-188735/24.
P-PSDB; AAU75789.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tribouley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Stewart
                                                                                                                                                                                                                                                                                    Claim 5; Page 114-115; 117pp;
                                                                                                                                                                                                                                                                                                                                 (e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         T EA,
V CM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INCYTE
 3766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Elliott VS, Ram)
A, Gandhi AR, Pa
CM, Griffin JA,
 BP; 1011 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENOMICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ramkumar J,
Patterson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INC
   903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Baughn
   Ç,
                                                                                                                                                                                                                                                                                    English.
     918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ¥,0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Yao
                                                                                                                                                                                                                                                                                                                                                                                                                                                .o MG,
Lee EA,
Yue H,
   g.
     934
     H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Burford N, War
A, Hafalia AJA,
     0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Wang
                                                                                                                                                                                                                                                                                                                                      or preventing all disorders (e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŗ
```

Sequence

Best Local Similarity:
Query Match:
DB:

Percent Similarity:

2.13e-175 1552.00 99.67% 99.34% 99.23%

Gaps: Mismatches: Indels: Conservative:

001

Length: Matches:

3766 300 1

Score:

No.:

```
뮍
                                                                                    8
                                                                                                                              Ś
                                                                                                                                                                            Ś
                                                                                                                                                                                                    문
                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                 Ś
Ś
                      밁
                                     δ
                                                                밁
                                                                                                             밁
                                                                                                                                                                                                                                                                                           US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                          658
                                                                                                                                                                                                      598
                                                                                                                                                                                                                                                 538
                                                                   778
                                                                                                               718
  121
                                             101
                                                                                                                                    61
                                                                                                                                                                               41
                                                                                                                                                                                                                          21
                                                                                       81
                                                                                                                                                                                                                                                                       \vdash
                                                                                                                                                                                                                       SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                       HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                     CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                    AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                  recagreagaaggrigragritacgareaaagereecaagargrigeerererererea
                                                                                CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100
                                                                                                               GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                             {\tt LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer}
                                                                                                                                                                                                                                                                                            x ABK14474 (1-3766)
                                                                                                                                       80
                                                                                                                                                                                                                               40
                                                                                                                                                                                                                                                      597
                                                                                                                                                                                                                                                                          20
                                                                       837
                                                                                                                    777
                                                                                                                                                                                    60
                                                                                                                                                                                                          657
                            897
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                   원. B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ঠ
          WPI; 2002-500762/53.
P-PSDB; ABB97946.
                                                                                                                                                04-JUL-2002.
                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                            Human; brain; tonsil; hippocampus; foetal brain; diagnosis; gene; ds.
                                                                                                                                                                                                                                                                                  Human gene sequence
                                                                                                                                                                                                                                                                                                          06-SEP-2002
                                                                                                                                                                                                                                                                                                                                ABN83966;
                                                                                                                                                                                                                                                                                                                                                      ABN83966 standard;
                                           Ohara O,
                                                                                                    22-DEC-2000; 2000JP-00389742.
                                                                                                                        20-DEC-2001; 2001WO-JP011217
                                                                                                                                                                     WO200252005-A1
                                                                  (CELE-) CELESTAR LEXICO-SCI LTD.
                                                                                                                                                                                                                                                                                                                                                                                                    1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1258
                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr 160
                                                                                                                                                                                                                                                                                                                                                                                                    CAGACT 1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LygargMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet 260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC 1017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                         GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC 1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                               IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG 1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTAGTGCACTGTTTAGCTGGGGATCTCCCGCCTCCGCCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                          Nagase T,
                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                    Location/Qualifiers 184. .2181
                                                                                                                                                                                                                                                                                                                                                      DNA;
                                                                                                                                                                                                                                                                                    #13.
                                           Nakajima D;
                                                                                                                                                                                                                                                                                                                                                       4790
                                                                                                                                                                                                                                                                                                                                                       ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         . 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   957
```

```
Genes and their expression products cloned from human cDNA libraries for treatment and diagnosis of diseases associated with their expression.
Claim 1(a); Page 111-117; 238pp; Japanese
```

The invention relates to DNA encoding polypeptides directly cloned from cDNA libraries originating in adult whole brain, human tonsil, human adult hippocampus and human foetal whole brain. Polypeptides and polymucleotides of the invention may be used in the investigation of differential expression of the DNA sequences in normal subjects and disease patients. They may also be used in the production of antibodies, oligonucleotide probes and DNA chips for diagnosis and identification of drugs for treatment of diseases with which the DNA sequences are associated. The sequences given in records ABN83954-ABN83984 represent human gene sequences of the invention

Sequence 4790 BP; 1293 A; 1064 C; 1152 G; 1281 T; 0 U; 0 Other;

Percent Similarity:
Best Local Similarity:
Query Match:
DB:

3.08e-175 1552.00 99.67% 99.34% 99.33%

Conservative: Mismatches: Indels:

4790 300

No.:

Scores:

US-10-029-345A-109_COPY_1_302 (1-302)

x ABN83966 (1-4790)

240	ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal :	221	Ş
843		784	망
220	IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu	201	Ş
783		724	DЬ
200	GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe;	181	Q.
723	CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACCAAGGAGCTGATG	664	DЬ
180		161	Ş,
663	ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC	. 604	Db.
160		141	Ş
603	CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC	544	DЬ
140		121	ρ
543	GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG	484	DЬ
120		101	ŞQ Q
483	TGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCCAAGATGTTGCCTCTCTCT	424	DЬ
100		81	ફ
423	GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT	364	Db
80		61	\$
363	CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG	304	Db
60		41	Q.
303	AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC	244	Дb
40		21	γQ
243	ATGGCCCATGAGATGATTGAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA	184	DЬ
20		1	8

```
ABSULT 12
ABV20833
ID ABV2
XX ABV2
XX ABV2
XX ABV2
XX Huma
XX Huma
XX Huma
XX Huma
XX Homc
PN W020
XX 20-F
PR 16-F
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                          The invention relates to an isolated nucleic acid molecule (I) comprising a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for: (a) assessing whether a patient is afflicted with prostate cancer; (b) monitoring the progression of prostate cancer in a patient; (c) assessing the efficacy of a test compound to inhibit prostate cancer in a patient; (d) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (e) selecting a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate cell carcinogenic potential of a compound; (g) determining whether prostate cancer has metastasized in a patient; (h) assessing the aggressiveness or indolence of prostate cancer in a patient; (I) is also useful as a pharmacodyanamic or pharmacogenomic marker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-FEB-2000;
16-MAR-2000;
25-MAY-2000;
09-JUN-2000;
18-JUL-2000;
        Sequence
                                                                                                                                                                                                                                                                                                                                               Novel isolated nucleic acid molecule associated with cancerous state prostate cells and correlating with presence of prostate cancer, used for detecting presence of prostate cancer, stage of prostate cancer.
                                                                                                                                                                                                                                                                                                               Claim 1; Page 3419; 11750pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20-FEB-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200160860-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; prostate pharmacogenomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABV20833;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABV20833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          prostate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MILLENNIUM PREDICTIVE MEDICINE
            5145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGACT 1089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LysårgMetåspMet$erLeuåspGluålaTyrårgPheValLysGluLysårgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; 2000US-0183319P.
; 2000US-0189862P.
; 2000US-0207454P.
; 2000US-0211314P.
; 2000US-0219007P.
; 2000US-0255281P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Endege
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2001WO-US005171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
          B₽;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          expression marker cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               marker;
          1408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cDNA; 5145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š,
          A; 1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cytostatic; carcinogen; pharmacodyanamic marker;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Monahan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BP.
          C; 1253 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20824
          1346
        H
          0
      ū,
          Other
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     903
                       Ş
                                                             뫄
                                                                                           8
                                                                                                                                         뭥
                                                                                                                                                                       δ
                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Alignment & Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                               1429
                                                                                                                                                                                                                          1309
                                                                                                                                           1369
                                                                                                                                                                                                                                                                                                          1249
                                                                                                                                                                                                                                                                                                                                                                                       1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1009
                       301
                                                                                                   281
                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                               221
                                                                                                                                                                                                                                                                                                                                                                                                                               201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21
GlnThr 302
                                                                                  IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                               LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                             LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                             ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                        CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                      CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                       ATCCCCGAGTCTCATTTCCTGCGTGT
                                                                                                                                                                                                                                                                                                                                                                                                          IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ArgileLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3.44e-175
1552.00
99.67%
99.34%
99.34%
99.23%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      x ABV20833 (1-5145)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                     GCCTGTGAATGACAGCTTTTGTGAGAAATTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5145
300
```

1428

1368

1308 240

260

220

1188 200 1128 1068 160 1008

120 948

100 888

828 80 768 708

40

60

648

```
ABV21080
ID ABV21
XX ABV21
XX ABV21
XX ABV21
XX ABV21
XX ABV21
XX ABV21
XX ABV21
XX ABV21
XX Human
XX Human
XX Homo
PN W0200
XX 20-FE
PR 11-FE
PR 11-FE
PR 11-JU
PR 13-DE
XX 18-JU
PR 13-DE
XX MAPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX MPI;
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX Claim
XX 
                                                                                                                                                                                                                                                                                    Pred.
                                                                                                                                                                                                                   Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                문
                                                                                                        S
                                                                                                                                              US-10-029-345A-109_COPY_1_302 (1-302) x ABV21080 (1-5145)
                                                                                                                                                                                                                                                                                                                              Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to an isolated nucleic acid molecule (I) comprising a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for: (a) assessing whether a patient is afflicted with prostate cancer; (b) monitoring the progression of prostate cancer in a patient; (c) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (d) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (e) selecting a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate cancer has metastazized in a patient; (d) assessing the aggressiveness or indolence of prostate cancer in a patient; (l) is also useful as a pharmacodyanamic or pharmacogenomic marker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel isolated nucleic acid molecule associated with cancerous state of prostate cells and correlating with presence of prostate cancer, useful for detecting presence of prostate cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16-MAR-2000; 2000US-0189862P.
25-MAY-2000; 2000US-0207454P.
09-UUN-2000; 2000US-0211314P.
18-UUL-2000; 2000US-0219007P.
13-DEC-2000; 2000US-0255281P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; prostate cancer; cytostatic; carcinogen; pharmacodyanamic marker; pharmacogenomic marker; gene; ss.
                                                                                                                                                                                                                                                                                                        No.:
                                                                                                                                                                                                                                                                                                                                                                    Sequence 5145 BP; 1408 A; 1135 C; 1253 G; 1346 T; 0 U;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2001-662795/76.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17-FEB-2000; 2000US-0183319P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200160860-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human prostate expression marker cDNA 21071.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABV21080,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABV21080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20-FEB-2001; 2001WO-US005171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (MILL-) MILLENNIUM PREDICTIVE MEDICINE INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1489
                                                                     589
                          21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ,
70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             standard;
SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Page 3481; 11750pp;
                                                                ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                             MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLéuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Endege
                                                                                                                                                                                               3.44e-175
1552.00
99.67%
99.34%
99.34%
99.23%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Monahan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뫄
                                                                                                                                                                                                                   Conservative: Mismatches: Indels:
                                                                                                                                                                                             5145
300
1
0
                                                                                                                                                                                                                                                                                                                                                                      w
                                                                                                                                                                                                                                                                                                                                                                      Other;
                                                                  648
                                                                                                          20
    RESULT 14
ABV26680
ID ABV26
XX
AC ABV26
XY
I6-SE
XX
Human
XX
Human
XX
Pharm
XX
OS Homo
XX
                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                Human; prostate pharmacogenomic
                                                                                                                               Human prostate expression marker cDNA 26671.
                                                                                                                                                                                                                   ABV26680;
                                                                                                                                                                                                                                                              ABV26680 standard;
                                                                                                                                                                           16-SEP-2002
                                                                                                                                                                                                                                                                                                                                                  1489
                                                                                                                                                                                                                                                                                                                                                                                                                                  1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1009
                        sapiens
                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                CAGACT 1494
                                                                                                                                                                                                                                                                                                                                                                                          GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LeuAlaGlyGlyPheAlaGluPheSerArgCyBPheProGlyLeuCyBGluGlyLySSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                  ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                               IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                         (first
                                                                     cancer;
                                                                                                                                                                                                                                                              CDNA;
                                                                                                                                                                         entry)
                                                                cytostatic;
gene; ss.
                                                                                                                                                                                                                                                              5145
                                                                                                                                                                                                                                                              股
                                                                                      carcinogen;
                                                                                      pharmacodyanamic marker;
```

1128

200

1188

220

1428

280

1488 300 1368

260

1308 240 1248 1008

140 948 120 888 100 828 80 768 8

```
Percent Similarity:
Best Local Similarity
Query Match:
DB:
                                                                                                                                                                                                                                                                                            á
                                                                                                                                                                                                                                                                                                                    US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                                                                                                                                                                  Alignment Scores: Pred. No.:
                                                                                                                                                                                 ş
                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                   밁
                                                                                                                             Ś
                                                                                                                                                           밁
                                                                          á
                                                                                                      밁
                                                뮹
Ъ
                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17-FEB-2000;
16-MAR-2000;
25-MAY-2000;
09-JUN-2000;
18-JUL-2000;
13-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to an isolated nucleic acid molecule (I) comprising a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for: (a) assessing whether a patient is affilicted with prostate cancer; (b) monitoring the apatient is affilicted with prostate cancer; (c) assessing the efficacy progression of prostate cancer in a patient; (d) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (e) selecting a composition for inhibiting prostate cancer in a patient; (e) selecting the prostate cancer has metastatized in a patient; (h) determining whether prostate cancer has metastasized in a patient; (h) determining whether prostate cancer has metastasized in a patient; (i) is also useful as a pharmacodyanamic or pharmacogenomic marker; (I) is also useful as a pharmacodyanamic or pharmacogenomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200160860-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel isolated nucleic acid molecule associated with cancerous state of prostate cells and correlating with presence of prostate cancer, useful for detecting presence of prostate cancer, stage of prostate cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20-FEB-2001; 2001WO-US005171.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 1; Page 5388-5389; 11750pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 5145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2001-662795/76
                                                                                                                                                                                                                                                                      589
                                                                                                                                                                                                                   649
                                                                                                                                                                                                                                                                                                                                                                              Similarity:
    889
                           101
                                                       829
                                                                                                           769
                                                                                                                                                               709
                                                                                                                                                                                        41
                                                                                                                                                                                                                                           21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MILLENNIUM PREDICTIVE MEDICINE
                                                                                                                                 61
                                                                               81
                                                                                                                                                                                                                                                                                               ۲
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ,
70
                                                                                                                                                                                                                                                                                     MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                <u>ATGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA</u>
                                                                                                                                                                            HisileLeuGluAlaileAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                          AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu 120
                                                      rdcadreadaaderrdradrrracdarcadaderreceandardrrecererererea
                                                                       CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                           ĠĀĊĀĀĀĠŦĠŦŦĀĀŦŦĀĊĀĠĀĠĊŦĊĀŦĊĊĀĠĊĀŦŤĊĀĠĊĠĀĀĀĊĀŦĀĀĠĠŦŦĠĀĊĀŦTĢĀT
                                                                                                                                                              CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-0189862P.
2000US-0207454P.
2000US-0211314P.
2000US-0219007P.
2000US-0255281P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Endege
                                                                                                                                                                                                                                                                                                                                                                                                                                                             BP; 1408 A; 1135
                                                                                                                                                                                                                                                                                                                                                                  3.44e-175
1552.00
99.67%
99.34%
99.23%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ΨŎ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Monahan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                c;
                                                                                                                                                                                                                                                                                                                            x ABV26680 (1-5145)
                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1253 G;
                                                                                                                                                                                                                                                                                                                                                        Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   T; 0 U; 3 Other;
                                                                                                                                                                                                                                                                                                                                                                                                              5145
300
                                                                                                                                                                                                                                                                                                                                                             001
                                                                                                                                                                                                                                                       40
                                                                                                                                                                                                                                                                                   648
                                                                                            100
                                                                                                                      828
                                                                                                                                                80
                                                                                                                                                                         768
                                                                                                                                                                                                   60
                                                                                                                                                                                                                              708
                                                                                                                                                                                                                                                                                                             20
                                                                    888
```

```
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    멁
RESULT 15
ABV20978
JD ABV20
AC ABV20
AC ABV20
AC ABV20
AC ABV20
XX 13-SE
XX 13-SE
XX Human
XX Human
KW Pharm
XX WO200
PN WO200
XX WO200
XX I-E
PD 23-AU
XX 20-E
PX 17-E
PR 16-M
PR 16-M
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-J
PR 18-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                  17-FEB-2000;
16-MAR-2000;
25-MAY-2000;
09-JUN-2000;
18-JUL-2000;
13-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABV20978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                pharmacogenomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABV20978
                                                                                                                                                                                                                                                                                                                                                                                                                                    23-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200160860-A2
                                                                                                                                                                                                                                                                                                                                                                         20-FEB-2001;
                                Schlegel R,
                                                                                           (MILL-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           prostate expression marker cDNA 20969.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   prostate cancer; cytostatic; carcinogen;
cogenomic marker; gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <u>ACTCTACTCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cdaarrictriccaarcritarcridderecadedadarcrictricaadaaddadcrdard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Arceceda drete carrirecto de coror de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución de consecución d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ĊĀĠĊĀĠĀĀŤĠĠĠĀŤŤĠĠŤŤĀŤĠŤĠŤŦĀĀĀŤĠĊĊĀĠĊĀĀTĀĊĊŤĠŤĊĊĀĀĀĠĊĊŤĠĀĊŤŤŤ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LysArgMetAspMetGerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          craenecacnerraecreseanterecesereces accaceares entreserrae areare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       aagadgaTegaCaTeTCTTTagaTeaagCTTTACAGATTTGTGAAAGAAAAAAAACCTTACT
                                                                                              MILLENNIUM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               standard; cDNA; 5145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GlnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ararcrecaaacrreaarrrereegeceaacrecregacrateaeaacaacaacaacaaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGACT
                                                                                                                                                     ; 2000US-0183319P.
; 2000US-0189862P.
; 2000US-0207454P.
; 2000US-0211314P.
; 2000US-0219007P.
; 2000US-0255281P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                               2001WO-US005171.
                                          Endege
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        302
                                                                                                    PREDICTIVE
                                          ĕ,
                                             Monahan
                                                                                                           MEDICINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    pharmacodyanamic marker;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             280
```

2001-662795/76

```
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-029-345A-109_COPY_1_302 (1-302) x ABV20978 (1-5145)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alignment Scores:
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to an isolated nucleic acid molecule (I) comprising a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for: (a) assessing whether a patient is afflicted with prostate cancer; (b) monitoring the progression of prostate cancer in a patient; (c) assessing the efficacy of a test compound to inhibit prostate cancer in a patient; (d) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (e) selecting a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate cancer has metastasized in a patient; (g) assessing the prostate cancer has metastasized in a patient; (h) assessing the aggressiveness or indolence of prostate cancer in a patient; (I) is also useful as a pharmacodyanamic or pharmacogenomic marker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; Page 3451; 11750pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel isolated nucleic acid molecule associated with cancerous state of prostate cells and correlating with presence of prostate cancer, useful for detecting presence of prostate cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 5145 BP; 1408 A; 1135 C; 1253 G; 1346 T; 0 U; 3 Other;
                                                                                                                                                                    1009
                         181 GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                        141
                                                                                                                                                                                                                                                 949
                                                                                                                                                                                                                                                                                                                                    688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          649
                                                                                                                           161
                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                      829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      769 GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                          101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        589 ATGGCCCATGAGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                             18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                41 HisileLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21 SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                 GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                       ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                       ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                           AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                    ACTOTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                              LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                 CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3.44e-175
1552.00
99.67%
99.34%
99.23%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5145
300
1
1
0
                                                                                  1128
                                                                                                                           180
                                                                                                                                                                  1068
                                                                                                                                                                                                                                                 1008
                                                                                                                                                                                                                                                                                           140
                                                                                                                                                                                                                                                                                                                                                                             120
                                         200
                                                                                                                                                                                                        160
                                                                                                                                                                                                                                                                                                                                    948
                                                                                                                                                                                                                                                                                                                                                                                                                    888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   768
```

8

ક

밁

Ş

밁

밁 δ 밁 ঠ 밁 ঠ 片 S

ð 밁 र् 밁

୍ୟ	망	γ	망	Q	망	Qy	망	Qy	В	Ş
301 GlnThr 302	1429 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC 1488	281 IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn 300	1369 AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAGAAA	261 LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr 280	1309 CTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCACCCATCGCTATCGCCTACATCATC 1368	241 LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet 260	1249 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAAGCCTCCAATGGATGTGTT 1308	221 ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal 240	1189 ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG 1248	201 IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu 220
	8		æ		8		œ		8	

Search completed: June 21, Job time: 347.168 secs 2004, 皮

1489

CAGACT 1494

This Page Blank (uspto)

```
Command line parameters:

-MODEL-frame+ p2n.model -DEV=xlh
-MODEL-frame+ p2n.model -DEV=xlh
-Q=/cgn2 _1/USPTO_spool/US10029345/runat_21062004_164146_29071/app_query.fasta_1.1294
-DB=PublIshed_App_lications_NA -QFMT=fastap -SUFFIX=rnpb -MINMATCH=0.1
-LOOPEXT=0 -UNITS=bits -START=1 -END=-1 -MATRIX=blosum62
-TRANS=human40.cdi -LIST=45 -DOCALIGN=200 -THR SCORE=pct -THR MAX=100
-THR MIN=0 -ALIGN=15 -MODE=LOCAL -OUTFMT=pto -NORM=ext -HBAPSIZE=500 -MINLEN=0
-MAXLEN=200000000 -USER=US10029345 @CGN 1 1 333 @runat 21062004 164146 29071
-NCPU=6 -ICPU=3 -NO MMAP -LARGGUTERY -NEG SCORES=0 -WAIT -DSPBLOCK=100
-LONGLOG -DEV TIMEDUT=120 -WARN TIMEDUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5
-FGAPOP=6 -FGĀPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OM protein - nucleic search, using frame_plus_p2n model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Databage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence:
Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Xgapop 10.0 , Y
Ygapop 10.0 , Y
Fgapop 6.0 , F
Delop 6.0 , F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-029-345A-109_COPY_1_302
1564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MAHEMIGTQIVTERLVALLE......PNFNFLGQLLDYEKKIKNQT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Published_Applications_NA:*
1: /cgn2_6/ptodata/1/pubpna/US07_PUBCOMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3017426 segs, 2290544650 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        June 21, 2004, 21:18:06 ; Search time 372.269 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /cgn2_6/ptodata/1/pubpna/PCT_NEW_PUB.seq:*
/cgn2_6/ptodata/1/pubpna/US06_NEW_PUB.seq:*
/cgn2_6/ptodata/1/pubpna/US07_NEW_PUB.seq:*
/cgn2_6/ptodata/1/pubpna/US07_NEW_PUB.seq:*
/cgn2_6/ptodata/1/pubpna/PCTUS_PUBCOMB.seq:*
                                                                                                                                                                                                                                                                                cgn2
                                                                                                                                                m2-6/ptodata/1/pubpna/US09B_PUBCOMB.seq:*
m2-6/ptodata/1/pubpna/US09C_PUBCOMB.seq:*
m2-6/ptodata/1/pubpna/US09C_PUBCOMB.seq:*
m2-6/ptodata/1/pubpna/US09_NEW_PUB.seq:*
m2-6/ptodata/1/pubpna/US10A_PUBCOMB.seq:*
m2-6/ptodata/1/pubpna/US10A_PUBCOMB.seq:*
m2-6/ptodata/1/pubpna/US10C_PUBCOMB.seq:*
m2-6/ptodata/1/pubpna/US10C_PUBCOMB.seq:*
m2-6/ptodata/1/pubpna/US10_NEW_PUB.seq:*
m2-6/ptodata/1/pubpna/US10_NEW_PUB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                _6/ptodata/1/pubpna/US08_NEW_PUB.seq:*
_6/ptodata/1/pubpna/US08_PUBCOMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                   6/ptodata/1/pubpna/US09A_PUBCOMB.seq:*
                                                                                                                         _6/ptodata/1/pubpna/US60_PUBCOMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Xgapext
Ygapext
Fgapext
Delext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (without alignments)
3716.370 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6034852
```

11111111111111111111111111111111111111	 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
り 4 4 Q Q B 4 4 4 4 4 4 4 4 8 4 8 4 8 4 8 4 8 4 8	1552 1552 1552 1552 1552 1552 1552 1552
22966 23332266 24453322 24453322 2445332 21945332 21945332 21956439 2216449 2216449 2216449 2216449 2216449 2216449 2216449 2216449 2216449 2216449 2216449	
11911111111111111111111111111111111111	
10-044 10-044 10-044 10-044 10-044 10-044 10-058	-10-343 -10-377 -10-172 -10-168 -10-257 -10-257 -10-377 -10-343 -10-648
סיי טפטטטטטטטטטטטטטטטטטטטטטטטטטטטטטטטטטט	quence equence equence equence equence equence equence equence

ALIGNMENTS

```
RESULT 1

US-09-816-494-3

US-09-816-494-3

; Sequence 3, Application US/09816494
; Patent No. US20020034807A1
; GENERAL INFORMATION:
; APPLICANT: Meyers, Rachel A.
TITLE OF INVENTION: 38692 AND 21117, NOVEL DUAL SPECIFICITY
TITLE OF INVENTION: PHOSPHATASE MOLECULES AND USES THEREFOR
; FILE REFERENCE: 10448-030002
; CURRENT APPLICATION NUMBER: US/09/816,494
CURRENT FILING DATE: 2001-03-23
; PRIOR APPLICATION NUMBER: US 60/191,858
; PRIOR FILING DATE: 2000-03-24
; NUMBER OF SEQ ID NOS: 10
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 1998
; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-816-494-3

Alignment Scores: 1.89e-201 Length: 1998
```

Result No.

Score

Query Match Length DB

ij

Description

```
밁
                                                                             Ś
                                                                                                       멍
                                                                                                                      Ś
                                                                                                                                          밁
                                                                                                                                                                δ
                                                                                                                                                                                          밁
                                                                                                                                                                                                        5
                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score:
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-029-345A-109_COPY_1_302 (1-302) x US-09-816-494-3 (1-1998)
N
                   901
                                      301
                                                             841
                                                                                281
                                                                                                      781
                                                                                                                          261
                                                                                                                                               721
                                                                                                                                                                   241
                                                                                                                                                                                       661
                                                                                                                                                                                                             221
                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                      201
                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                         161
                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                   141
                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21
                                                    GlnThr 302
                                                                                                          LysargMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                              CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTACCATCGCTATCGCCTACATCATG
                                                                                                                                                    LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                 ĊĊĠŦĠĠŦŦĠĠĀĊĀĀĀŦĊĀĠŦĀĠĀŦŦŦĊĀŦŦĠĀĠĀĀĀĀĠĊAĀĀĀĠĊĊŦĊĊĀĀŦĠĠĀŦĠŦĠŦŦ
                                                                                                                                                                                              ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                       | IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                    CAGCAGAATGGGATTGGTTAAGTGTCTAAATGCCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                          ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                          ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                              CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                      ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                    ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                           LeuAlaGlyGlyPheAlaGluPheSerArgCysPheDroGlyLeuCysGluGlyLysSer 140
                                                                                                                                                                                                                                                                                                                                                                                                                                          ĠĀĊĪĠĪĪĪĪŢĊĪĊĀĊĪĠĪĀĊĪĪĊĪĠĠĠĪĀĀĀĊĪĠĠĀĠĀĠĀĠĊŢĪĊĀĀĊĪĊĪĠĪŢĊĀĊĊĪĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                        CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  récadicadaaderieradiritacearcaaadereceaadareriecererererea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                  906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1552.00
99.67%
99.34%
99.23%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
1
0
                                                                        300
                                                                                              840
                                                                                                                                                            260
                                                                                                                                       780
                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                  720
                                                                                                                                                                                                                          660
                                                                                                                                                                                                                                               220
                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                        200
                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                            160
                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
```

```
APPLICANT: MILIERNIUM PHARMACOULICALS Inc.
APPLICANT: Curtis, Rory A.J.
APPLICANT: Glucksmann, Maria A.
APPLICANT: Glucksmann, Maria A.
APPLICANT: Myers, Rachel E.
APPLICANT: Williamson, Mark J.
APPLICANT: Williamson, Mark J.
APPLICANT: Williamson, Mark J.
APPLICANT: Williamson, Mark J.
APPLICANT: Williamson, Mark J.
APPLICANT: TSai, Fong-Ying
ITILE OF INVENTION: AND USES THEREOR
FILE OF INVENTION: 38692, 46508, 16816, 16839, 49937, 49931 AND 49933 MOLECULES
TITLE OF INVENTION: AND USES THEREOR
FILE REFERENCE: MPT03-0160MNIM
CURRENT FILING DATE: 2001-06-29
FRIOR APPLICATION NUMBER: US 09/895, 860
PRIOR PILING DATE: 2001-06-29
PRIOR APPLICATION NUMBER: US 09/895, 860
PRIOR PILING DATE: 2000-06-29
PRIOR APPLICATION NUMBER: US 60/215,370
PRIOR APPLICATION NUMBER: US 60/215,370
PRIOR APPLICATION NUMBER: US 60/215,370
PRIOR APPLICATION NUMBER: US 60/215,370
PRIOR APPLICATION NUMBER: US 60/215,370
PRIOR APPLICATION NUMBER: US 60/215,370
PRIOR APPLICATION NUMBER: US 60/187,455
PRIOR APPLICATION NUMBER: US 60/187,455
PRIOR APPLICATION NUMBER: US 60/187,455
PRIOR APPLICATION NUMBER: US 60/187,455
PRIOR APPLICATION NUMBER: US 60/189,801
PRIOR APPLICATION NUMBER: US 60/199,801
PRIOR APPLICATION NUMBER: US 60/199,801
PRIOR APPLICATION NUMBER: US 60/199,801
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUMBER: US 60/205,508
PRIOR APPLICATION NUM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; FEATURE:
; NAME/KEY: CDS
; LOCATION: (1)...(
US-10-377-072-27
                                                                  Ş
                       맑
                                                                                                                               문
                                                                                                                                                                        δ
                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Alignment
Pred. No.:
                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                               US-10-029-345A-109_COPY_1_302 (1-302) x US-10-377-072-27 (1-1998)
                                                                                                                                                                                                                                                                                                                                                                                                              Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Remaining Prior Application data removed
NUMBER OF SEQ ID NOS: 114
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-377-072-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 27, Application US/10377072
Publication No. US20040009501A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
ORGANISM: Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Мо.:
                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Scores:
                                                                           41
                                                                                                                            19
                                                                                                                                                                                 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INFORMATION
ĊŔĊĀŦŦŦŦĠĠĀĀĠĊĊĀŦŦĀĀŦĀŦĊĀĀĊŦĠĊŦĊĊĀĀĠĊŦŦĀŦĠĀĀĠĊĠĀĀĠGŦŦĠĊĄĀĊŖĠ
                                  HislleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                              SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer 40
                                                                                                                                                                                                                         ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                            MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sapiens
                                                                                                                                                                                                                                                                                                                                                                                                        1.89e-201
1552.00
99.67%
99.34%
99.34%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ŧ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               See
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      File Wrapper or PALM
                                                                                                                                                                                                                                                                                                                                                                                                  0011
        180
                                                          60
                                                                                                           120
                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                           20
```

ø

Tue

Jun

22

16:59:37

```
S
                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                           र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ર્
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      문
                                                                                                                                                                                                                                                                                                        RESULT 3
US-10-072-012-257
                                                                                                                                                                                                                                                                                                                                                           맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ₽
                                                                                                                                             APPLICANT: Tchernev, Velizar APPLICANT: Spytek, Kimberly APPLICANT: Spytek, Kimberly APPLICANT: APPLICANT: Patturajan, Meera APPLICANT: Shimkets, Richard APPLICANT: Li, Li
APPLICANT: Gangolli, Esha
                                                                                                                                                                                                                                                                         Sequence 257, A Publication No.
                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                         901
                                                                                                                                                                                                                                                                                                                                                                                         301 GlnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
Gangolli, Esha
Padigaru, Muralidhara
Anderson, David W.
Rastelli, Luca
Miller, Charles E.
Gerlach, Valerie
Taupier Jr, Raymond J.
Gusev, Vladimir Y.
Colman, Steven D.
Wolenc, Adam R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                       IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlnGlnAenGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                       ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTAGTGCACTGTTTAGCTGGGGATCTCCCGCCTCCGCCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                         Application US/10072012 o. US20040033493A1
                                                                                                                                                                                                                                                                                                                                                                                         302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                               US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                                                                                                                                                                          Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Burgess, Catherine E.
TITLE OF INVENTION: Proteins and Nucleic Acids Engricular Reference: 21402-258
CURRENT APPLICATION NUMBER: US/10/072,012
CURRENT FILING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: 60/265,102
PRIOR FILING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-31
PRIOR PILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR PILING DATE: 2001-01-31
PRIOR FILING DATE: 2001-01-31
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR APPLICATION NUMBER: 60/265,412
                                                                                             Ś
                                                                                                                                                       δ
                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; ORGANISM: HOM
US-10-072-012-257
                            Ş
                                                                  밁
                                                                                                                                밁
                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Remaining Prior Application data removed -
NUMBER OF SEQ ID NOS: 1391
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 257
LENGTH: 2071
TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: 60/267,057
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/266,975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR
PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR FILING DATE: 2001-02-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OR APPLICATION NUMBER: 60/266,406
OR FILING DATE: 2001-02-02
OR APPLICATION NUMBER: 60/266,767
OR FILING DATE: 2001-02-05
OR APPLICATION NUMBER: 60/267,057
OR FILING DATE: 2001-02-07
OR FILING DATE: 2001-02-07
                                                                  301
                                                                                                                                  241
      361
                                   101
                                                                                                                                                                                               181
                                                                                                                                                                                                                                                               121
                                                                                                  81
                                                                                                                                                                61
                                                                                                                                                                                                                             41
                                                                                                                                                                                                                                                                                           21
                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                             1 MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
     CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                 HisīleLeuGluAlaīleAsnīleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                 SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                            ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                  AGTGGAACGGAAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                  GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                 CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Furtak, Katarzyna
Grosse, William M.
Alsobrook II, John P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Lepley, Denise M.
Rieger, Daniel K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Carol E.
                                                                                                                                                                                                                                                                                                                                                                                                                        2.01e-201
1552.00
99.67%
99.34%
99.33%
                                                                                                                                                                                                                                                                                                                                                                                          x US-10-072-012-257 (1-2071)
                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                          Gape:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     See
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     File Wrapper or PALM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Encoding
```

100

300

60

240

120 40 20

180

360

```
RESULT 4

US-10-168-506-2

i Sequence 2, Application US/10168506

i Publication No. US20040053229A1

GENERAL INFORMATION:
APPLICANT: MARTINEZ, RICARDO
APPLICANT: MARTINEZ, RICARDO
APPLICANT: MANNING, GERARD
APPLICANT: WHYTE, DAVID

APPLICANT: HILL, RON
APPLICANT: FLANAGAN, SUCHA
APPLICANT: FLANAGAN, PETER
ITILE OF INVENTION: MAMMALIAN PROTEIN PHOSPHATASES
ITILE OF INVENTION UMMBER: US/10/168,506

CURRENT APPLICATION NUMBER: PCT/US00/34736

PRIOR APPLICATION NUMBER: PCT/US00/34736

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21

PRIOR FILING DATE: 2000-12-21
            Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                 Alignment Scores:
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        정 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGACT 966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ctadrideactigritadectide dancie ce de cice de cace de cicate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de citate de ci
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProTrpLeuAspLysSerValAspPheileGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGCAGAATGGGATTGGTTATGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGAATTCTTCCCAATCTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr 160
   3.24e-201
1552.00
99.67%
99.34%
99.23%
Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      140
```

```
Ş
                                                                                          맑
                                                                                                                           δ
                                                                                                                                                                   밁
                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                       뭐
                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                  뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-029-345A-109_COPY_1_302 (1-302) x US-10-168-506-2 (1-2732)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB:
                                                                                                                                                                               1318
                                                                                                                                                                                                                                                                       1258
                                                                                                                                                                                                                                                                                                                                                             1198
                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                  1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1078
                                                                                                                                     281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1018
                                                                                                                                                                                                                          261
                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                       221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  838 GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          598 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                41
CAGACT 1443
                                             GlnThr
                                                                         ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAAC
                                                                                                 1 MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                         LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                       chadridcachdrintradcridedancriccedericedecaccarederiaredecriacareare
                                                                                                                                                                                                                                                                                 LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                          CGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                      ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                    ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                            GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ĊAĠĊĀĠĀĀTĠĠĠĀŦTĠĠŦŦĀŦĠŦĠŦĀĀĀŦĠĊĊĀĠĊĀĀŦĀĊĊŦĠŦĊĊĀĀĀĠĊĊŦĠĀĊŦŦŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGGTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a creta dreceta cer de la receta de certa de la receta de certa de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta del receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta del receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta del receta de la receta de la receta de la receta de la receta del receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta de la receta d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   récadicadaaderieraderiracearcaaadereceaadarerrecererererea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ĠĀĊĀĀĀĠŦĠŦŦĀĀŦŦĀĊĀĠĀĠĊŦĊĀŦĊĊĀĠĊĀŦŤĊĀĠĊĠĀĀĀĊĀŦĀĀĠĠŦŤĠĀĊĀŦŤĠĀŦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ,
Argececargagargarregaacteaaarregraacrgagaggrregregecreggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                      300
                                                                                                                                                                 1377
                                                                                                                                                                                                            280
                                                                                                                                                                                                                                                         1317
                                                                                                                                                                                                                                                                                                                                                                                                                                    1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1077
                                                                                                                                                                                                                                                                                                 260
                                                                                                                                                                                                                                                                                                                                              1257
                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        40
```

RESULT 5 US-10-257-026-1 US-10-27-026-1, Application US/10257026 ; Publication No. US20040086859A1 ; GENERAL INFORMATION:

```
Ş
                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                              ঠ
                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                               र्
                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뮹.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ક
                                                                       र्
                                                                                             밁
                                                                                                                      ઈ
                                                                                                                                                  음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Percent Similarity:
Best Local Similarity:
                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Merck Patent GmbH
TITLE OF INVENTION: New dual specificity phosphatase
FILE REFERENCE: DUSPIONOWS
CURRENT APPLICATION NUMBER: US/10/257,026
CURRENT APPLICATION NUMBER: 2003-11-07
NUMBER OF SEQ ID NOS: 3
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Homo sapiens FEATURE:
NAME/KEY: CDS
LOCATION: (127)..(2121)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 3059
TYPE: DNA
                                                                                                                                                                                                                                                                                                                     427
                                                                                                                                                                                                                                                                                                                                                                           367
                                                                                                                                                                                                                                                                                                                                                                                                                               307
787
                       221
                                                  727
                                                                                                                                181
                                                                                                                                                                                   161
                                                                                                                                                                                                                                       141
                                                                                                                                                                                                                                                                   487
                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                               101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            127
                                                                                                                                                                                                                                                                                                                                                                                                    81
                                                                                                                                                                                                                                                                                                                                                                                                                                                         13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           41
                                                                                                                   GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                       ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
           ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                             | IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                              ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                             ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                  LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                   GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                      AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                           CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                             CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                     CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3.93e-201
1552.00
99.67%
99.34%
99.34%
17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              x US-10-257-026-1 (1-3059)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
Matches:
Conservative:
Mismatches:
Indels:
                       240
                                                                                                                                                          666
                                                                                                                                                                                   180
                                                                                                                                                                                                              606
                                                                                                                                                                                                                                                                 546
                                                                                                                                                                                                                                                                                            140
                                                                                                                                                                                                                                                                                                                     486
                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                          426
                                                                                                                                                                                                                                                                                                                                                                                                    100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           186
                                                  786
                                                                                                     726
                                                                                                                                                                                                                                       160
                                                                                                                                                                                                                                                                                                                                                                                                                               366
                                                                                                                                                                                                                                                                                                                                                                                                                                                         80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20
```

```
APPLICANT: Luche, Ralf M.
APPLICANT: Wei, Bo
ITTLE OF INVENTION: DSP-16 DUAL-SPECIFICITY
FILE REFERENCE: 200125.434
CURRENT APPLICATION NUMBER: US/09/964,277
CURRENT FILING DATE: 2001-09-25
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 1
LENGTH: 3496
                δ
                                         뭉
                                                           Ś
                                                                                 문
                                                                                                  Ş
                                                                                                                          밁
                                                                                                                                           Ş
                                                                                                                                                                    밁
                                                                                                                                                                                       á
                                                                                                                                                                                                             밁
                                                                                                                                                                                                                             ঠ
                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                      Query
DB:
                                                                                                                                                                                                                                                                                                                               Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 6
US-09-964-277-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                             US-10-029-345A-109_COPY_1_302 (1-302) x US-09-964-277-1 (1-3496)
                                                                                                                                                                                                                                                                                                                                                                         Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                         US-09-964-277-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 1, Application US/09964277 Patent No. US20020137170A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: DNA
ORGANISM: Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1027
                                                                                                                                                                                                                                                      301
 922
                    121
                                                                                  802
                                                                                                                                                                     682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      101
                                                                                                                           742
                                                                                                                                                                                                              622 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    261
                                                                                                      81
                                                                                                                                               61
                                                                                                                                                                                        41
                                                                                                                                                                                                                                  21
                                                                                                                                                                                 HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
Cy8SerGlnLy8ValValValTyrA8pGlnSerSerGlnA8pValAlaSerLeuSerSer
                                                                                                                          CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                    AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                          SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                  4.94e-201
1552.00
99.67%
99.34%
99.23%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DUAL-SPECIFICITY
                                                                                                                                                                                                                                                                                                                               Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    280
 981
                    140
                                         921
                                                              120
                                                                                                       100
                                                                                                                            801
                                                                                                                                                90
                                                                                                                                                                     741
                                                                                                                                                                                         60
                                                                                                                                                                                                              681
                                                                                                                                                                                                                                  40
                                                                                                                                                                                                                                                        621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1026
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                966
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                   Sequence 1, Application US/09816494
Patent No. US20020034807A1
Patent No. US20020034807A1
Patent No. US20020034807A1
Patent No. US20020034807A1
PAPLICANT: Meyers, Rachel A.
PITILE OF INVENTION: 38692 AND 21117, NOVEL DUITITLE OF INVENTION: PHOSPHATASE MOLECULES AND FILE REFERENCE: 10448-030002
CURRENT APPLICATION NUMBER: US/09/816,494
CURRENT FILING DATE: 2001-03-23
PRIOR APPLICATION NUMBER: US 60/191,858
PRIOR FILING DATE: 2000-03-24
NUMBER OF SEQ ID NOS: 10
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 1
                                                                                                                                                                                                LENGTH: 3544
; TYPE: DNA
; ORGANISM: Homo s
; PEATURE:
; NAME/KEY: CDS
; LOCATION: (589).
US-09-816-494-1
               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 7
US-09-816-494-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                청 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               dd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                             US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                          Score:
                                                                                                                                                       Pred. No.:
                                                                                                                                                                    Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             161
                  ы
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC 1461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGACT 1467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGAATTCTTCCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                 (589)...
                                                                                                                                                                                                                                                             sapiens
                                                                                                                                                                                                                   (2583)
                                                                                         5.06e-201
1552.00
99.67%
99.34%
99.23%
                                               x US-09-816-494-1 (1-3544)
                                                                                                                       Length:
Matches:
Conservative:
                                                                                           Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                DUAL SPECIFICITY AND USES THEREFOR
                                                                           3544
300
1
0
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1161
                  20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        220
Sequence 25, Application US/10377072
Publication No. US20040009501A1
GENERAL INFORMATION:
APPLICANT: Millennium Pharmaceuticals In
APPLICANT: Curtis, Rory A.J.
APPLICANT: Logan, Thomas Joseph
APPLICANT: Logan, Thomas Joseph
APPLICANT: Glucksmann, Maria A.
APPLICANT: Meyers, Rachel E.
APPLICANT: Williamson, Mark J.
                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                              S
                                                                                                                                                                                                                                              당
                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                             멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                         US-10-377-072-25
                                                                                                                                                                                      1489
                                                                                                                                                                                                                                                 1429
                                                                                                                                                                                                                                                                                                           1369
                                                                                                                                                                                                                                                                                                                                                                       1309
                                                                                                                                                                                                                                                                                                                                                                                                                                  1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1009
                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                            281
                                                                                                                                                                                                                                                                                                                                         261
                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                              221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                   GlnThr
                                                                                                                                                                                                                                                                                                                             LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                          LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                      CAGACT
                                                                                                                                                                                                                                                 ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                 IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                           CTAGTGCACTGTTTAGCTGGGATCTCCCCGCTCCGCCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                      1494
                                                                                                                                                                                                                   302
```

1488

300

1428

1368

1308

1248

220

1188

1068

160

1008

```
; FEATURE:
; NAME/KEY: CDS
; LOCATION: (589)...(2586)
US-10-377-072-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/10/377,072

CURRENT FILING DATE: 2003-02-27

PRIOR APPLICATION NUMBER: US 99/895,860

PRIOR FILING DATE: 2001-06-29

PRIOR PILING DATE: 2000-06-29

PRIOR PILING DATE: 2000-06-29

PRIOR PILING DATE: 2000-11-28

PRIOR FILING DATE: 2000-11-28

PRIOR APPLICATION NUMBER: US 99/723,806

PRIOR FILING DATE: 2000-03-07

PRIOR APPLICATION NUMBER: US 99/843,297

PRIOR PILING DATE: 2001-04-25

PRIOR FILING DATE: 2001-04-26

PRIOR PILING DATE: 2000-04-26

PRIOR PILING DATE: 2000-04-26

PRIOR APPLICATION NUMBER: US 99/861,801

PRIOR APPLICATION NUMBER: US 99/861,801

PRIOR APPLICATION NUMBER: US 99/861,801

PRIOR PILING DATE: 2001-05-19

PRIOR APPLICATION NUMBER: US 99/864,801

PRIOR PILING DATE: 2001-05-23

PRIOR PILING DATE: 2001-03-23

PRIOR PILING DATE: 2001-03-23

PRIOR APPLICATION NUMBER: US 99/815,419

PRIOR PILING DATE: 2001-03-23

PRIOR PILING DATE: 2001-03-23

PRIOR PRICING DATE: 2001-03-22

Remaining Prior Application data removed - See NUMBER: US 99/815,419
                                                                                                                                                                                  ঠ
                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                    닭
                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-029-345A-109_COPY_1_302
                                                                                                      S
                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
                                                                 멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: FABTSEQ
SEQ ID NO 25
LENGTH: 3544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Rudolph-Owen, Laura A.
APPLICANT: Chun, Miyoung
APPLICANT: Tsai, Fong-Ying
TITLE OF INVENTION: NOVEL 25869, 25934,
TITLE OF INVENTION: AB092, 46508, 1681
TITLE OF INVENTION: AND USES THEREFOR FILE REFERENCE: MPI03-0180MNIM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
ORGANISM: Homo Sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     No.:
                                                                                                                                                                                                                                                                                                                   649 AGTGGAACGGAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                      589
101 AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                769
                                                                                                                                                                                                                                  709
                                                                                                                                                                          61 AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                             41 HisīleLeuGluAlaīleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                           21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          I: Chun, Miyoung
I: Teai, Fong-Ying
INVENTION: NOVEL 25869, 25934, 26335, 50365, 21117, INVENTION: NAME A6508, 16816, 16839, 49937, 49931 AND
                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                         CysSerGlnLysValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                  GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                     CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                             SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                      ATGGCCCATGAGATGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5.06e-201
1552.00
99.67%
99.34%
99.34%
99.23%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (1-302)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       x US-10-377-072-25 (1-3544)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 See
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 File Wrapper or PALM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  49933 MOLECULES
                                                                                                        100
                          120
                                                                   888
                                                                                                                                                                                           80
                                                                                                                                                                                                                                     768
                                                                                                                                                                                                                                                                                                                     708
                                                                                                                                                                                                                                                                                                                                                           40
                                                                                                                                                                                                                                                                                                                                                                                                      648
                                                                                                                                                  828
                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                        Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-425-114-26234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                        Alignment Scores:
                                                                                                                                                    US-10-425-114-26234
                                                                                                                                                                                                                                                    APPLICANT: Zhou, Yihua
APPLICANT: Kovalic, David K.
APPLICANT: Kovalic, David K.
APPLICANT: Screen, Steven E
APPLICANT: Tabaska, Jack E
APPLICANT: Tabaska, Jack E
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53313)B
CURRENT APPLICATION NUMBER: US/10/425,114
CURRENT PILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 73128
SEQ ID NO 26234
LENGTH: 3625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 26234, Application US/10425114 Publication No. US20040034888A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Liu, Jingdong
                                                                                                                                                                        OTHER INFORMATION: Clone ID: LIB4119-028-H6_FLI
                                                                                                                                                                                                               TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                             FEATURE:
                                                                                       No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGACT 1494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG 1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGAATTCTTCCCAATCTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG 1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACTOTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC 1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC 1008
    5.26e-201
1552.00
99.67%
99.34%
99.23%
                                             Length:
Matches:
Conservative:
                          Mismatches:
                                                                   3625
300
```

1488

1428 280 1368 240

1308

260

1188

200

180

160

```
RESULT 10
US-10-343-357-17
Sequence 17, Application US/10343357
; Publication No. US20040058341A1
                                                                                                       문
                                                                                                                                  ঠ
                                                                                                                                                                       유
                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                            뮍
                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-029-345A-109_COPY_1_302 (1-302) x US-10-425-114-26234 (1-3625)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BB:
GENERAL
                                                                                                       1592
                                                                                                                                                                                                                                                                                                                                                                                                                                                         1292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1052
                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               872
                                                                                                                                                                                                                                                                              261
                                                                                                                                                                                                                                                                                                                                                                                                                    221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HisīleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                      GlnThr 302
                                                                                                                                                                                                                                                                LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                   LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGCAGAATGGGATTGGTTAATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                       CAGACT 1597
                                                                                                                                                                                                                                                                                                                 CTAGTGCACTGTTTAGCTGGGATCTCCCGGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                    CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                        ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                            IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn 300
                                                                                                                                                                                                                                                                                                                                                                                                        ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1171
                                                                                                                                                                                                                                                                                                               1471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1111
                                                                                                                                                                                                                                                                                                                                                                                      1411
                                                                                                                                                                                                                                                                                                                                                                                                                                                         1351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                              280
                                                                                                                                                                                                                                                                                                                                                 260
                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/10/343,357
CURRENT FILING DATE: 2003-01-28
PRIOR APPLICATION NUMBER: PCT/US01/23716
PRIOR PILING DATE: 2001-07-26
PRIOR PILING DATE: 2000-07-26
PRIOR FILING DATE: 2000-07-26
PRIOR FILING DATE: 2000-07-26
PRIOR FILING DATE: 2000-08-03
PRIOR APPLICATION NUMBER: US 60/224,309
PRIOR FILING DATE: 2000-08-10
PRIOR FILING DATE: 2000-08-10
PRIOR PILING DATE: 2000-08-18
PRIOR APPLICATION NUMBER: US 60/226,728
PRIOR APPLICATION NUMBER: US 60/226,728
PRIOR APPLICATION NUMBER: US 60/229,254
PRIOR FILING DATE: 2000-08-18
PRIOR FILING DATE: 2000-08-30
PRIOR FILING DATE: 2000-09-08
PRIOR FILING DATE: 2000-09-08
PRIOR FILING DATE: 2000-09-08
VINMBER OF SEQ ID NOS: 20
SOFTWARE: PERL PROGRAM
SEQ ID NO 17
LENGTH: 3766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: INCYTE GENOMICS, INC.; TANG, Y.TOM
APPLICANT: BLLIOTT, Vicki S.; RAMKUMAR, Jayalaxmi
APPLICANT: YAO, Monique G.; BURFORD, Neil
APPLICANT: WANG, Yunei E.; STEWART, Elizabeth A.
APPLICANT: GANDHI, Ameena R.; ARVIZU, Chandra S.
APPLICANT: LIEE, Ernestine A.; HAFALIA, April J.A.
APPLICANT: LU, Dyung Aina M.; TRIBULEY, Catherine M.
APPLICANT: GRIFFIN, Jennifer A.; BAUGHN, Mariah R.
APPLICANT: YUE, Henry; WARREN, Bridget A.
APPLICANT: NGUYEN, Danniel B.; CHAMLA, Narinder K.
APPLICANT: KEARNEY, Liam
TITLE OF INVENTION: PROTEIN PHOSPHATASES
FILE REFERENCE: PI-0173 PCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local S.
Query Match:
                           á
                                                                                                Ś
                                                                                                                                      В
                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; FEATURE:
, NAME/KEY: misc feature
; OTHER INFORMATION: Incyte
US-10-343-357-17
 뮰
                                                                   日
                                                                                                                                                               S
                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-029-345A-109_COPY_1_302 (1-302) x US-10-343-357-17 (1-3766)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: DNA
                                  101
                                                                                                                                                                                                           658
                                                                                                                                                                                                                                                                                598
                                                                                                                                                                                                                                                                                                                                                   538
                                                                                                                                        718
                                                                                                     81
                                                                                                                                                                        61
                                                                                                                                                                                                                                            41
                                                                                                                                                                                                                                                                                                                 21
                                                                                                                                                                                                                                                                                                                                               HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                      SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                  AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                        CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                          AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
GACTGTTTTCTCACT
                                                                   GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                             CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                         5.61e-201
1552.00
99.67%
99.34%
99.33%
13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ü
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US20040058341A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            0011
```

```
; SOPTWARE: PatentIn version 3; SEQ ID NO 115; LENGTH: 4790; TYPE: DNA; ORGANISM: Homo Bapiens US-10-648-593-115
                                           Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 11
US-10-648-593-115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                      Score:
                                                                                                                    Pred.
                                                                                                                              Alignment
               US-10-029-345A-109_COPY_1_302
                                                                                                                                                                                                                                             GENERAL INFORMATION:

APPLICANT: Bristol-Wyers Squibb Company
TITLE OF INVENTION: IDENTIFICATION OF GENES FOR PREDICTING ACTIVITY OF COMPOUNDS TH
TITLE OF INVENTION: INTERACT WITH AND/OR MODULATE PROTEIN TYROSINE KINASES AND/OR
TITLE OF INVENTION: PROTEIN TYROSINE KINASE PATHWAYS IN BREAST CELLS
FILE REFERENCE: DO273 NP
CURRENT APPLICATION NUMBER: US/10/648,593
CURRENT FILING DATE: 2002-08-26
PRIOR APPLICATION NUMBER: 60/406,385
PRIOR APPLICATION NUMBER: 60/406,385
PRIOR FILING DATE: 2002-08-27
NUMBER OF SEQ ID NOS: 557
NUMBER OF SEQ ID NOS: 557
                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 115, Appropriate Publication No.
                                                                                                                    NO.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1018
                                                                                                                                 Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGTGGTTGGACAATCAGTAGATTTCATTGAGAAAGCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                          Application US/10648593
                                                                                                                                                                                                                                                                                                                                                                                                              US20040106132A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               302
                                             8.47e-201
1552.00
99.67%
99.34%
99.34%
17
                  (1-302)
                                                       Length:
Matches:
Conservative:
Mismatches:
Indels:
                US-10-648-593-115
                                           4790
300
1
1
0
                (1-4790)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  957
                                                                                                   US-10-094-749-673
                                                                                                                                                                       S
                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                               밁
                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
Sequence 673, Application US/10094749
Publication No. US20030219741A1
GENERAL INFORMATION:
APPLICANT: ISOGAI, TAKAO
APPLICANT: SUGIYAMA, TOMOYASU
APPLICANT: OTUGIYAMA, TOMOYASU
APPLICANT: WAKAMATSU, AI
                                                                                                                                                1084
                                                                                                                                                                                                       1024
                                                                                                                                                                          301
                                                                                                                                                                                                                                   281
                                                                                                                                                                                                                                                               964
                                                                                                                                                                                                                                                                                           261
                                                                                                                                                                                                                                                                                                                        904
                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                              844
                                                                                                                                                                                                                                                                                                                                                                                                                                        784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     364
                                                                                                                                                                                                                                                                                                                                                                                                           221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21
                                                                                                                                                              GlnThr 302
                                                                                                                                                                                                    LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                CAGACT
                                                                                                                                                                                                                                                                              LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HisīleLeuGluAlaīleAsnīleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                AAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAAGAAAAAAAGACCTACT
                                                                                                                                                                                                                                                                                                                      CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                               ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                        ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                          IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AspLysValleuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACTOTAGTOCOTACOTGCATTTOTCAGCOTTGCTTACOTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                               1089
                                                                                                                                                                                                                                                                1023
```

APPLICANT: APPLICANT: APPLICANT:

YAMAMOTO, JUN TSONO, YUUKO

JUN-ICHI

HIROYUKI

```
Ś
                                                                                       ᅡ
                                                                                                                 Ś
                                                                                                                                                  밁
                                                                                                                                                                      δ
                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                             片
                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                                                                                                                                                                                                                 맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; LENGTH: 2102
; TYPE: DNA
; ORGANISM: Homo sapiens
US-10-094-749-673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: MASUHO, YASUHIKO
TITLE OF INVENTION: NOVEL FULL-LENGTH CDNA
FILE REFERENCE: 08435/0160
CURRENT APPLICATION NUMBER: US/10/094,749
CURRENT FILING DATE: 2002-03-12
PRIOR APPLICATION NUMBER: 60/350,435
PRIOR FILING DATE: 2002-01-24
PRIOR PILING DATE: 2001-09-14
PRIOR FILING DATE: 2001-09-14
NUMBER OF SEQ ID NOS: 3381
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ ID NO 673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Мо.:
                                                         141
                                                                                       416
                                                                                                                                                  356
                                                                                                                                                                              101
                                                                                                                                                                                                           296
                                                                                                                                                                                                                                                                     236
                                                                                                                                                                                                                                                                                                                                176
 161
                                                                                                                    121
                                                                                                                                                                                                                                       81
                                                                                                                                                                                                                                                                                                                                                                                       116 AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                            41
                                                                                                                                                                                                                                                                                                                                                                                                                   21
                                                                                                                                                                                                                                                                                                                                                                                                                                                 56 ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OTSÚKA, KAORU
NAGAI, KEIICHI
IRIE, RYOTARO
TAMECHIKA, ICHIRO
SEKI, NAOHKO
YOSHIKAWA, TSUTOMU
OTSUKA, MOTOYUKI
                                                                                                                                                                                                                                                                                                                                                  HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                            SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                              LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                       AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                            CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer 100
                                                                                                                                                                                                                                                                                       AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                              CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                        CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                  GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                     GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAGAHARI, KENJI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YURI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.88e-200
1545.00
99.34%
99.01%
98.79%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            x US-10-094-749-673 (1-2102)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2102
299
1
2
0
                                                              160
                                                                                                                       140
    180
                                                                                           475
                                                                                                                                                     415
                                                                                                                                                                               120
                                                                                                                                                                                                              355
                                                                                                                                                                                                                                                                        295
                                                                                                                                                                                                                                                                                                    80
                                                                                                                                                                                                                                                                                                                                 235
                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                            175
                                                                                                                                                                                                                                                                                                                                                                                                                        40
                                                                                                                                                                                                                                                                                                                                                                                                                                                      115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20
                                  535
```

```
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멂
                  Ş
                                                     밁
                                                                               Ś
                                                                                                          US-10-029-345A-109_COPY_1_302 (1-302) x US-10-296-115-520 (1-2966)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 13
US-10-296-115-520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
멇
                                                                                                                                                        Query Match:
                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                    Score:
                                                                                                                                                                                                                    Pred. No.:
                                                                                                                                                                                                                              Alignment Scores:
                                                                                                                                                                                                                                                           ; OTHER INFORMATION: US-10-296-115-520
                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Hyseq Inc
APPLICANT: Hyseq Inc
TITLE OF INVENTION: NO. US20040053248Alel Nucleic Acids and Polypeptides
FILE REFERENCE: 784PCT
CURRENT APPLICATION NUMBER: US/10/296,115
CURRENT FILING DATE: 2002-11-18
PRIOR APPLICATION NUMBER: US99/488,725
PRIOR FILING DATE: 2000-01-21
PRIOR FILING DATE: 2000-01-27
PRIOR APPLICATION NUMBER: US99/552,317
PRIOR FILING DATE: 2000-04-25
NUMBER OF SEQ ID NOS: 1478
SEQ ID NO 520
LENGTH: 2966
LENGTH: 2966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 520, Application US/10296115 Publication No. US20040053248A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                  ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                       NAME/KEY: misc_feature
LOCATION: (1)...(2966)
                                                                                                                                                                                                                                                                                                                       FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181 GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         536 CTAATTCTTCCCAATCTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 956
83
                         21
                                                      23
                                                                                  μ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlnThr
                                                                       MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGCAGAATGGGATTAGGTGTTAAATGCCAGCAATACCTGTCCAAAGCCCTGACTTT
                SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCGTGGTTGGACAAATCAGTAGATTTCATTGAGAAAGCCAAAAGCCTCCAATGGATGTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 961
                                                                                                                                                                                                                                                                            Ħ
                                                                                                                                            4.66e-200
1544.00
99.34%
99.01%
98.72%
                                                                                                                                                                                                                                                                            a,t,c
                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                            9
                                                                                                                                          Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 595
                                                           82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          260
```

```
Sequence 255, Application US/10072012
Publication No. US2004033493A1
GENERAL INFORMATION:
APPLICANT: Tchernev, Velizar
APPLICANT: Spytek, Kimberly
APPLICANT: Serhusen, Bryan
APPLICANT: Patturajan, Meera
APPLICANT: Shimkets, Richard
APPLICANT: Shimkets, Richard
APPLICANT: Li, Li
APPLICANT: Gangolli, Esha
APPLICANT: Padigaru, Muralidhara
APPLICANT: Anderson, David W.
APPLICANT: Rastelli, Luca
APPLICANT: Rastelli, Luca
APPLICANT: Miller, Charles E.
                                                                                                                                                                                                                                                 RESULT 14
US-10-072-012-255
                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઈ
                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       323
                                                                                                                                                                                                                                                                                                      923
                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                            863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      143
                                                                                                                                                                                                                                                                                                                                                                                                             281
                                                                                                                                                                                                                                                                                                                                                                                                                                                  803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   41
                                                                                                                                                                                                                                                                                                                         GlnThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                        CAGACT
                                                                                                                                                                                                                                                                                                                                                                          ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                            IleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTAGTGCACTGTTTAGCTGGGATCTCCCGCTCCGCCACCATCGCCTATCGCCTACATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAATGACAGCTTTTGTGAGAAAATTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGAGATGTCCTCAACAAGGAGCTGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACTOTAGTOCOTACCTGCATTTCTCAGCCTTGCTTACCTGTTGCCAACATTGGGCCAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                       302
                                                                                                                                                                                                                                                                                                        928
                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100
                                                                                                                                                                                                                                                                                                                                                                                                                                                862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT FILING DATE: US/10/072,012
CURRENT FILING DATE: 002-01-31
PRIOR APPLICATION NUMBER: 60/265,102
PRIOR FILING DATE: 2001-01-30
PRIOR PELLING DATE: 2001-01-30
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR FILING DATE: 2001-01-31
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,395
PRIOR FILING DATE: 2001-02-03
PRIOR FILING DATE: 2001-02-06
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR FILING DATE: 2001-02-07
PRIOR FILING DATE: 2001-02-07
PRIOR PRILING DATE: 2001-02-07
PRIOR PILING DATE: 2001-02-07
PRIOR FILING DATE: 2001-02-07
PRIOR FILING DATE: 2001-02-07
PRIOR FILING DATE: 2001-02-07
PRIOR FILING DATE: 2001-02-07
PRIOR FILING DATE: 2001-02-07
PRIOR FILING DATE: 2001-02-07
PRIOR FILING DATE: 2001-02-07
                                                                                                                                                                                                                                                                                                                                                                          Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                      밁
                                                                                    S
                                                                                                                            밁
                                                                                                                                                    S
                                                                                                                                                                                              밁
                                                                                                                                                                                                                               á
                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                             ş
                                                                                                                                                                                                                                                                                                                                  US-10-029-345A-109_COPY_1_302 (1-302) x US-10-072-012-255 (1-2200)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; TYPE: DNA
; ORGANISM: Homo
US-10-072-012-255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Remaining Prior Application data
NUMBER OF SEQ ID NOS: 1391
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 255
LENGTH: 2200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Lepley, Denise M.
APPLICANT: Rieger, Daniel K.
APPLICANT: Burgess, Catherine E.
TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same FILE REFERENCE: 21402-258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR FILING DATE: 2001-02-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                No.:
                                                                                                                                                                                                121
                                                        241
                                                                                                                            181
                                                                                         13
                                                                                                                                                           41
                                                                                                                                                                                                                                 21
                     77
                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                    MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                      HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                              SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gerlach, Valerie
Taupier Jr, Raymond (
Gusev, Vladimir Y.
Colman, Steven D.
Wolenc, Adam R.
ValAspIleAspCysSerGlnLysValValTyrAspGlnSerSerGlnAspValAla
                                                                                                                            CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                  AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Furtak, Katarzyna
Grosse, William M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pena, Carol E. A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sapiens
                                                                                                                                                                                                                                                                                                                                                                          7.28e-195
1504.50
94.95%
94.64%
96.20%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ٦.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              removed
                                                                                                                                                                                                                                                                                                                                                                       Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ,
```

See

File Wrapper or

PALM

15 4

20

96

```
RESULT 15

US-09-964-277-20

i Sequence 20, Application US/09964277

patent No. US20020137170A1

i GENERAL INFORMATION:

APPLICANT: Luche, Ralf M.

APPLICANT: Wei, Bo

TITLE OF INVENTION: DSP-16 DUAL-SPECIFICITY PHOREMATION:

FILE REFERENCE: 200125.434

CURRENT APPLICATION UMBER: US/09/964,277

CURRENT FILING DATE: 2001-09-25

NUMBER OF SEQ ID NOS: 22

i SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            유 성
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                            유정
                                                                                                                                                                                                                                                                                                                                                                   日
                                                                                                                                                                                                                                                                                                                                                                                         8 유
                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  유정
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뭕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      D,
                                              Score:
                                                            Pred. No.:
                                                                      Alignment Scores:
                                                                                               US-09-964-277-20
                                                                                                         SEQ ID NO 20
LENGTH: 3332
TYPE: DNA
ORGANISM: Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                            901
                                                                                                                                                                                                                                                                                                                                                                                                                           841
                                                                                                                                                                                                                                                                                                                                                                                                                                                 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                   286
                                                                                                                                                                                                                                                                                                                                                                                                    267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                              961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AspValLeuAsnLysGluLeuIleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSer 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ServalHisLeuLeuAla-------GlyGlyPheAlaGluPheSerArgCysPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTTGACATTGATTGCAGTCAGAAGGTTGTAGTTTACGATCAAAGCTCCCAAGATGTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGGCCTCTGTGAAGGAAAATCCACTCTAGTCCCTACCTGCATTTCTCAGCCTTGCTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsn
                                                                                                                                                                                                                                                                                                                                                                          GlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMetLysArgMetAspMetSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AATACCTGTCCAAAGCCTGACTTTATCCCCGAGTCTCATTTCCTGCGTGTGCCTGTGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TyrThrCysProLysProAspPheIleProGluSerHisPheLeuArgValProValAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProValAlaAsnIleGlyProThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProGlyLeuCysGluGlyLysSerThrLeuValProThrCysIleSerGlnProCysLeu
                                                                                                                                                                                                                                                                                                                                          AsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsnGlnThr 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ------GluLysAlaLysAlaSerAsnGlyCysValLeuValHisCysLeuAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACAGCTTTTGTGAGAAAATTTTTGCCGTGGTTGGACAAATCAGTAGATTTCATTGGTAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AspSerPheCysGluLysIleLeuProTrpLeuAspLysSerValAspPheIle-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCTGTTGCCAACATTGGGCCAACCCGAATTCTTCCCAATCTTTATCTTGGCTGCCAGCGA
                                                                                                                                                                                                                                                                                                                              AATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAACCAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                            CCCGCTCCGCCATCGCTATCGCCTACATCATGAAGAGGATGGACATGTCT
 4.75e-152
1194.50
81.198
80.538
76.378
Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                     PHOSPHATASE
                                                                                                                                                                                                                                                                                                                                1011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                               960
                                                                                                                                                                                                                                                                                                                                                                                                       285
                                                                                                                                                                                                                                                                                                                                                                                                                                                    266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               212
```

Search completed: June 22, Job time: 381.269 secs

2004,

03:06:44

1297

CCAGACT 1303

```
В
                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-029-345A-109_COPY_1_302 (1-302) x US-09-964-277-20 (1-3332)
                                       Ş
                                                                             Ş
                                                                                                멍
                                                                                                                    8
                                                                                                                                           뫄
                                                                                                                                                          Š
                                                                                                                                                                                  덩
                                                                                                                                                                                                 δ
                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
δ
                  밁
                                                                                                                                              1057
                          1237
                                                                 1177
                                                                                                       1117
                                                                                                                                                                                                                                                                                                                                                                                      862
                                                                                                                                                                                                                                                                                                                                                                                                                             802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  622
                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                     160
                                                                                                                                                                                                                                                                                                                             140
                                                                                                                                                                                                                                                                                                                                                922
                                                                                                                                                                                                                                                                                                                                                                                                        101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    742
                                             280
                                                                                                                          240
                                                                                                                                                                 220
                                                                                                                                                                                     997
                                                                                                                                                                                                       200
                                                                                                                                                                                                                           937
                                                                                                                                                                                                                                                                   926
                                                                                                                                                                                                                                                                                                         925
                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                               81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                                                                                                                                                                                                                                                                    HislleLeuGluAlalleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGTGGAACGGAAAAAGTGCTGCTAATTGATAGCCGGCCATTTGTGGAATACAATACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGGCCCATGAGATGATTGGAACTCAAATTGTTACTGAGAGGTTGGTGGCTCTGCTGGAA
                                                                                                                                                                                    elleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIleLe
                                                                                                                                                                                                                          gcagcagaargggarrggrrargrgrraaargccagcaaraccrgrccaaagccrgactr
                                                                                                                                                                                                                                     CTTG-
                                                                                                                                                                                                                                                                                                                                                                                                                             GACAAAGTGTTAATTACAGAGCTCATCCAGCATTCAGCGAAACATAAGGTTGACATTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                        rArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIl 180
                                                                                                                                                                                                                                                                                                                                                                -LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSe
                          TATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGAATTAAGAA 1296
                                     rIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAs 300
                                                                                                       TCTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCTATCGCCTACATCAT
                                                                                                                                             ĠĊĊĠŦĠĠŦŦĠĠĀĊĀĀĀŦĊĀĠŦĀĠĀŦŦŦĊĀŦŦĠĀĠĀĀĀĀĠĊĊŦĊĊĀĀŦĠĠĀŦĠŦĠŦ
                                                                                                                                                                                                                                                                                                                            {\tt rThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProTh}
      nGlnThr 302
                                                                 GAAGAGGATGGACATGTCTTTAGATGAAGCTTACAGATTTGTGAAAAGAAAAAAAGACCTAC
                                                                          tlysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProTh
                                                                                                                  -CAGGAGCTGAT
                                                                                                                                                                                                                                                                                                                                                                     140
                                                                                                                                                 1116
                                                                                                                                                                     240
                                                                                                                                                                                         1056
                                                                                                                                                                                                           220
                                                                                                                                                                                                                                                                                                                                160
                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                 861
                                                                                                                                                                                                                                                                                                                                                                                                                                                    100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        40
                                                                    1236
                                                                                                           1176
                                                                                                                                                                                                                                                  200
                                                                                                                                                                                                                                                                      936
                                                                                                                                                                                                                                                                                                             925
                                                                                                                                                                                                                                                                                                                                                                                         921
                                                                                                                             260
```

```
Command line parameters:

-MODEL-frame+ p2n.model -DEV=xlh
-Q=/cgn2_1/USPTO_spool/US10029345/runat_21062004_164146_29052/app_query.fasta_1.1294
-Q=/cgn2_1/USPTO_spool/US10029345/runat_21062004_164146_29052/app_query.fasta_1.1294
-DB=Isuned_patents_NA -OFMT=fastap_-SUFFIX=rni_-MINMATCH=0.1_-LOOPCL=0
-LOOPEXT=0 -UNITS=bits -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human140.cdi
-LIST=45 -DOCALIGN=200 -THR_SCORE=pct -THR_MAX=100 -THR_MIN=0 -ALIGN=15
-MODE=LOCAL_-OUTPMT=pto -NORM=ext -HEAPSIZE=500 -MINLEN=0 -MAXLEN=2000000000
-USER-US10029345_@CGN_1_1_76_@runat_21062004_164146_29052 -NCPU=6 -ICPU=3
-NO_MMAP -LARGEQUERY -NEG_SCORE=0 -WAIT -DSPBLOCK=100 -LONGLOG
-DEV_TIMEOUT=120 -WARN_TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPOP=6
-PGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                  Regult
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Searched:
                                                                                                                                                                                                                                                                                             ŏ.
                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB DB
                                                                                                                                                                                                                                                                                           Score
                                                                                                                                        469
467.5
467.5
                                                                                                                                                                                                                          1552
1552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              nucleic search, using frame_plus_p2n model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Xgapop 10.0,
Ygapop 10.0,
Fgapop 6.0,
Delop 6.0,
                                                                                                                                                                                                                                                                                           Query
Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Issued_Patents_NA:*

1: /cgn2_6/ptodata/2/ina/5A_COMB.seq:*
2: /cgn2_6/ptodata/2/ina/5B_COMB.seq:*
3: /cgn2_6/ptodata/2/ina/6A_COMB.seq:*
4: /cgn2_6/ptodata/2/ina/6B_COMB.seq:*
5: /cgn2_6/ptodata/2/ina/PCTUS_COMB.seq:*
5: /cgn2_6/ptodata/2/ina/backfiles1.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-029-345A-109_COPY_1_302
1564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      June 21, 2004, 21:10:41; Search time 59.9628 Seconds (without alignments) 2794.987 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MAHEMIGTQIVTERLVALLE......PNFNFLGQLLDYEKKIKNQT 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     682709 seqs, 277475446 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd
    1998
3544
1830
2109
2109
22109
2240
2240
1238
1238
1238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Match 100%
first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Xgapext
Ygapext
Fgapext
Delext
US-09-816-494-3

US-09-816-494-1

US-09-920-668-3

US-09-920-658-3

US-09-016-434-1135

US-09-016-434-1100

US-09-016-434-1100

US-09-371-671B-10

US-09-371-671B-10

US-09-371-671B-10

US-09-371-671B-10

US-09-736-457-803

US-09-736-457-803

US-09-614-124B-803
                                                                                                                                                                                                                                                                                                                                                                SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   . . . . . .
                                                                                                             Sequence 3, Appli
Sequence 1, Appli
Sequence 3, Appli
Sequence 1, Appli
Sequence 1135, Ap
Sequence 946, App
Sequence 1100, Ap
                                                                                                                                                                                                                                                                                             Description
                                              Sequence 10, Appl
Sequence 11, Appl
Sequence 803, App
                           Sequence
```

ი	ი	ი	ი	ი	ი																											
45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13
95.	٠	95.	95.	95.	95.	σ	357	ū	σ	ū	ū	357	IJ	ທ	ū	₿	8	0	\mathbf{r}	•	N	N	N	N	N	N	N	N	N	Ν	425	N
8	ъ.	æ	œ	ω.	8		2		۲.		2		ν.	۲	2	٠.	Α.	ა	٥.	7.	7.	7.	7.	.7	7.	.7	7.	7.	7.	7.	27.2	7.
ω	w	ω	w	ω	w	ω	4637	w	w	u	\vdash	\vdash	\vdash	\vdash	\vdash	J	œ	0	0	vo	0	0	\vdash	0	10	9	9	0	9	90	1238	23
4.	4	4	4	4.	4	4.	4	4.	4	4	4	4	4	4.	4	4	N	4	4	N	4	4.	4	4.	4	4	4	4	4	4.	4.	4.
-09-834-759-3	-09-604-287A-31	-09-433-826B	-09-339-338-3	-09-620-405B-	-09-389-681-3	-09-589-18	9-671-325-8	-09-614-12	-09-736-457-	-09-702-705-	-09-589-184-	-09-671-325-	-09-614-124E	9-736-457	-09-702-705-	-09-016-434-	8-990-379-	-09-922-146-	-09-016-434-	-08-990-379-2	-09-589-184-82	9-671-325-82	-09-614-124B-	-09-736-457-82	-09-702-705-82	-09-589-184-82	-09-671-325-82	9-614-124B-8	-09-736-457-82	-09-702-705-82	S-09-589-184	-09-671-325-80
equence 31:	equence 31:	equence 31	equence 311	equence 311	equence 313	equence 804	equence 804	equence 804	equence 804	equence 80'	equence 80:	equence 80:	equence 801	equence 801	equence 801	equence 91,	equence 1,	equence 3,	equence 129	equence 2,	equence 826	equence 826	quence 826	equence 826	equence 826	equence 825	equence 82	equence 829	equence 825	equence 82	e 803,	equence 80

ALIGNMENTS

```
CURRENT APPLICATION NUMBER: US/09/816,494
CURRENT APPLICATION NUMBER: US/09/818
PRIOR APPLICATION NUMBER: US 60/191,858
PRIOR FILING DATE: 2000-03-24
NUMBER OF SEQ ID NOS: 10
SOFFWARE: FASESEQ for Windows Version 4.0
SEQ ID NO 3
LENGTH: 1998
TYPE: DNA
밁
                                 Ś
                                                                   US-10-029-345A-109_COPY_1_302 (1-302) x US-09-816-494-3 (1-1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 1
US-09-816-494-3
                                                                                                                                                  Percent Similarity:
Best Local Similarity:
                                                                                                                                   Query Match:
                                                                                                                                                                                          Score:
                                                                                                                                                                                                            Pred. No.:
                                                                                                                                                                                                                            Alignment Scores:
                                                                                                                                                                                                                                                                    US-09-816-494-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
APPLICANT: Meyers, Rachel A.
TITLE OF INVENTION: 38692 AND 21117, NOVEL DUAL SPECIFICITY
TITLE OF INVENTION: PHOSPHATASE MOLECULES AND USES THEREFOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 3, Application US/09816494 Patent No. 6664089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILE REFERENCE: 10448-030002
                                                                                                                                                                                                                                                                                      ORGANISM: Homo sapiens
                         1 MetAlaHisGluMetIleGlyThrGlnIleValThrGluArgLeuValAlaLeuLeuGlu
                                                                                                                                 8.04e-195
1552.00
99.67%
99.34%
99.23%
                                                                                                                                 Conservative: Mismatches: Indels:
                                                                                                                                                                                        Matches:
                                                                                                                   001
```

S

21 SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer

```
Sequence 1, Application US/09816494

Patent No. 6664089

GENERAL INFORMATION:
APPLICANT: Meyers, Rachel A.
TITLE OF INVENTION: 38692 AND 21117, NOVEL DU
TITLE OF INVENTION: 98692 AND 21117, NOVEL DU
TITLE REFERENCE: 10448-030002

CURRENT APPLICATION NUMBER: US/09/816,494

CURRENT FILING DATE: 2001-03-23

PRIOR APPLICATION NUMBER: US 60/191,858

PRIOR FILING DATE: 2000-03-24

NUMBER OF SEQ ID NOS: 10
                                                                                                              RESULT 2
US-09-816-494-1
                                                                                                                                        밁
                                                                                                                                                  8
                                                                                                                                                                     망
                                                                                                                                                                                    Ş
                                                                                                                                                                                                     밁
                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                             片
                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                     301
                                                                                                                                        901
                                                                                                                                                                        841
                                                                                                                                                                                         281
                                                                                                                                                                                                          781
                                                                                                                                                                                                                          261
                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                            221
                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                            201
                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                              161
                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                141
                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                              LysargMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr
                                                                                                                                                       GlnThr 302
                                                                                                                                                                    ATATCTCCAAACTTCAATTTTCTGGGCCAACTCCTGGACTATGAGAAGAAGATTAAGAAC
                                                                                                                                                                                                                                     CTAGTGCACTGTTTAGCTGGGATCTCCCGCCTCCGCCACCATCGCTATCGCCTACATCATG
                                                                                                                                                                                                                                                LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaTleAlaTyrIleMet
                                                                                                                                                                                                                                                                                                       ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                                                                                                                                                                                                                        CAGCAGAATGGGATTGGTTAAGATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                                                                                                                                                                                                                                                                                          GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProlysProAspPhe
                                                                                                                                                                                                                                                                                                                                                                         ĊĠĀĀTTĊŤŦĊĊĊĀĀTĊŤŤŦĀŦĊŦŦĠĠĊŦĠĊĊĀĠĊĠĀĠĀŦĠŦĊĊŦĊĀĀĊĀĀĠĠĀĠĊŦĠĀTG
                                                                                                                                                                                                                                                                                                                                                                                   ArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeuIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ĠĀĊĪĠĪĪĪĪĊĪĊĀĊĪĠĪĀĊĪĪĊĪĠĠĠĪĀĀĀĊĪĠĠĀĠĀĠĀĠĊĪĪĊĀĀĊĪĊĪĠĪĪĊĀĊĊĪĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                           LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AspLysValLeuIleThrGluLeuIleGlnHisSerAlaLysHisLysValAspIleAsp|
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnG]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DUAL SPECIFICITY AND USES THEREFOR
                                                                                                                                                                                    300
                                                                                                                                                                                                     840
                                                                                                                                                                                                                    280
                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                           160
                                                                                                                                                                                                                                                                                                        660
                                                                                                                                                                                                                                                                                                                         220
                                                                                                                                                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                                                                                         200
                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                            140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; SOFTWARE: FastSEQ fo
; SEQ ID NO 1
; LENGTH: 3544
; TYPE: DNA
; ORGANISM: Homo sapi
; FEATURE:
; NAME/KEY: CDS
; LOCATION: (589)...(
US-09-816-494-1
    Ś
                    В
                                8
                                                D<sub>0</sub>
                                                                 δ
                                                                                      밁
                                                                                                   8
                                                                                                                     밁
                                                                                                                                     Ş
                                                                                                                                                         Ъ
                                                                                                                                                                      5
                                                                                                                                                                                          뮍
                                                                                                                                                                                                       δ
                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                             뫄
                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                 ₽
                                                                                                                                                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alignment Scores: Pred. No.:
                                                                                       1189
                                                       1249
                                                                                                                        1129
                                                                                                                                                         1069
                                                                                                                                                                                           1009
                                                                      221
                                                                                                       201
                                                                                                                                         181
                                                                                                                                                                          161
                                                                                                                                                                                                           141
                                                                                                                                                                                                                           949
                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                             688
                                                                                                                                                                                                                                                                                              829
                                                                                                                                                                                                                                                                            101
                                                                                                                                                                                                                                                                                                                              769
                                                                                                                                                                                                                                                                                                                                                                709
                                                                                                                                                                                                                                                                                                                                                                                                 649
                                                                                                                                                                                                                                                                                                                                                                                                                                  589
                                                                                                                                                                                                                                                                                                              81
                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                41
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ۳
{\tt LysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThr}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       for Windows
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (2583)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2.1e-194
1552.00
99.67%
99.34%
99.23%
4
```

```
US-10-029-345A-109_COPY_1_302 (1-302)
LeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMet
                                                                               ProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysVal
                                                                                                                                CAGCAGAATGGGATTGGTTATGTGTTAAATGCCAGCAATACCTGTCCAAAGCCTGACTTT
                                                                                                                                               GlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAspPhe
                                                                                                                                                                                                                                                 ThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGlyProThr
                                                                                                                                                                                                                                                                                              LeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLysSer
                                                                                                                                                                                                                                                                                                                                                   AspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeu
                                                                                                                                                                                                                                                                                  CTTGCAGGTGGGTTTGCTGAGTTCTCTCGTTGTTTCCCTTGGCCTCTGTGAAGGAAAATCC
                                                                                                                                                                                                                                                                                                                                   GACTGTTTTCTCACTGTACTTCTGGGTAAACTGGAGAAGAGCTTCAACTCTGTTCACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                   CysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeuGlnGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACATTTTGGAAGCCATTAATATCAACTGCTCCAAGCTTATGAAGCGAAGGTTGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThrSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      x US-09-816-494-1 (1-3544)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0011
                               1308
                                                        240
                                                                               1248
                                                                                                                                                                                  1128
                                                                                                                                                                                                                                                                                                           140
                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                          200
                                                                                                                                                                                                          180
                                                                                                                                                                                                                                  1068
                                                                                                         220
                                                                                                                                                                                                                                                          160
                                                                                                                                                                                                                                                                                   1008
                                                                                                                                                                                                                                                                                                                                                                                                           100
                                                                                                                                                                                                                                                                                                                                   948
                                                                                                                                                                                                                                                                                                                                                                                     888
                                                                                                                                                                                                                                                                                                                                                                                                                                     828
                                                                                                                                                                                                                                                                                                                                                                                                                                                            80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     648
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                     Ś
                                                                                                                                                                                                        ঠ
                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                  ફ
                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 3
US-09-920-668-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                    밁
                                                                                        δ
                                                                                                              밁
                                                                                                                            ঠ
                                                                                                                                                밁
                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                         ; NAME/KEY: CDS
; LOCATION: (135)...(2012)
US-09-920-668-3
              δ
                                     밁
                                                  5
                                                                                                                                                                                                                                                                                                          US-10-029-345A-109_COPY_1_302 (1-302)
                                                                                                                                                                                                                                                                                                                                                                                       Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQ ID NOS: 49 SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 3, Application US/09920668 Patent No. 6482644
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Lex M. Cowsert
APPLICANT: Brett P. Monia
TITLE OF INVENTION: ANTISENSE MODULATION OF DUAL SPECIFIC PHOSPHATASE 8 EXPRESSION
FILE REFERENCE: RTG-0246
CURRENT APPLICATION NUMBER: US/09/920,668
CURRENT FILING DATE: 2001-08-01
                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA ORGANISM: Homo sapiens FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 2377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1489 CAGACT 1494
                                                                                                                                                    120 LeuLeuAlaGlyGlyPheAlaGluFheSerArgCysFheProGlyLeuCysGluGlyLys
                                                                                                               375 ACGGAGCCACAGGACGTGGTGGTCTATGACCAGAGCACGCGGGACGCCAGCGTGCTGGCC
                                                                                                                                                                                                                                 195 CGGGGCGGGCCTGGGGCCGCTGGTCATCGACAGCCGCTCCTTCGTGGAGTACAACAGC
                                                                                                                            80 AspCysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSer
                                                                                                                                                                                                                                           20 GluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsnThr 39
                                                                                                                                                                                                                                                                                GlnThr 302
 ---SerThrLeuValProThrCysIleSerGlnProCysLeuProValAlaAsnIleGly 158
                                                                                                                                                                                                                                                                    ATGGCTGGGGACCGGCTCCCGAGGAAGGTGATGGATGCCAAGAAGCTGGCCAGCCTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATCCTCACTGGGGGCTTCGCCACCTTCTCCTCCTGCTTCCCCGGCCTCTGCGAGGGCAAG
                                                                                                                                                                                                                                                                                                                                      4.67e-120
988.00
81.40%
63.12%
63.17%
                                                                                                                                                                                                                                                                                                           x US-09-920-668-3 (1-2377)
                                                                                                                                                                                                                                                                                                                                       Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                              2377
190
55
54
2
                                                                                                                                                     374
                                     554
                                                                                                                434
                                                                                                                                                                        79
                                                                                                                                                                                          314
                                                                                                                                                                                                              59
                                                                                                                                                                                                                                 254
멼
               S
                                     В
                                                     Ś
                                                                         밁
                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                         Score:
```

```
Sequence 1, Application US/09557921

Patent No. 6551810

GENERAL INFORMATION:

APPLICANT: Luche, Ralf M.

APPLICANT: Wei, Bo

TITLE OF INVENTION: DSP-10 DUAL-SPECIFICITY

FILE REFERENCE: 200125.416

CURRENT APPLICATION NUMBER: US/09/557,921

CURRENT TILING DATE: 2000-04-20

NUMBER OF SEQ ID NOS: 20

SOFTMARE: FastSEQ for Windows Version 4.0

SEQ ID NO 1

LENGTH: 1830
                                                                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 4
US-09-557-921-1
                                                                                                                                                                                                               US-10-029-345A-109_COPY_1_302 (1-302) x US-09-557-921-1 (1-1830)
                                                                                                                                                                                                                                                                                                                                                                                                   US-09-557-921-1
                                                                                                                                                                                                                                                                                                                                              Pred. No.:
                                                                                                                                                                                                                                                                                                                                                             Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1035 AAG
                                                                                                                                          975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                279 ProThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIle 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               199 AspPheIleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   159 ProThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGlu 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           735
723 CTAGACTTGATTTCCTGTAGGGAAGGCAAGGACTCTTTCAAGAGGATCTTTTCCAAAGAA 782
                                                                                        CysValLeuValHisCysLeuAlaGlylleSerArgSerAlaThrIleAlaIleAlaTyr
                                                                       CACATTAACTGTGCCGATAAGATCAGCCGGCGAGACTGCAGCAGGGCAAGATCACTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IleMetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LeuIleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysPro
                                  ThrGluLeuIleGln---HisSerAlaLysHisLysValAspIleAspCysSerGlnLys 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGATGACGCAAAATGGAATAAGCTACGTCCTCAACGCCAGCAACTCCTGCCCCAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Lүв 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGTCCATCTCGCCCAACTTCAACTTCCTGGGCCAGCTGCTGGAGTACGAGCGCACGCTG 1034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATCATGAAGACCATGGGCATGTCCTCCGACGACGCCTACAGGTTCGTGAAGGACAGGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DSP-10 DUAL-SPECIFICITY PHOSPHATASE
                                                                                                                                                                                                                                                       1.45e-51
469.00
57.72%
35.91%
29.99%
                                                                                                                                                                                                                                                                      Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                           Length:
Matches:
                                                                                                                                                                                                                                                     Gaps:
                                                                                                                                             662
                                                                       722
                                                                                                         65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   198
```

```
US-09-016-434-1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 5
                                                                                                                                                                                                                                                                                                                                                                             Sequence 1135, Applica Patent No. 6500938 GENERAL INFORMATION:
                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Word Perfect 6.1 for Windows/MS-DOS
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                APPLICANT: Janice Au-Young
APPLICANT: Jeffrey J. Seilhamer
TITLE OF INVENTION: COMPOSITION FOR THE DETECTION OF SIGNALING
TITLE OF INVENTION: PATHWAY GENE EXPRESSION
                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                        ZIP:
APPLICATION NUMBER:
                                                                                                                                                          COUNTRY:
                                                                                                                                                                                                   CITY:
                                                                                                                                                                                                                    STREET:
                                                                                                                                                                                                                                           ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1020 ---CCCACCACCCTGACATCGAGAACGCTGAGCTCACCCCCATCTTGCCCTTTCCTGTTC 1076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       94304
                                                                                                                                                                             PALO ALTO
CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCAAACCTTAACTTCATGGGGCAGTTGCTAGAGTTCGAGGAAGACCTAAACAAC 1478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACTCGGATGACCATGACTGATGCTTATAAATTTGTCAAAGGCAAACGACCAATTATCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CACTGCCAGGCTGGGGTGTCCCGCTCCGCCATCGTCATCGCTTACTTGATGAAGCAC 1364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIleMetLysArg 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTTGAAGAGGCTTTTGAGTTCATTGAGGAAGCTCACCAGTGTGGGAAGGGGCTTCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCysValLeuVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ThrValLeuLeuGlyLysLeuGluLysSerPheAsnSerValHisLeuLeuAlaGlyGly 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTATAGTTTATGATGAGAATACCAATGAACCAAGCCGAGTGATGCCCTCCCAGCCACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIleLysAsn 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgProThrIleSer 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ValLeuAsnAlaSer------TyrThrCysProLysProAspPheIlePro 202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LeuGlyCysGlnArgAspValLeuAsnLysGluLeuIleGlnGlnAsnGlyIleGlyTyr 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlnProCysLeuPro---ValAlaAsnIleGlyProThrArgIleLeuProAsnLeuTyr 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PheAlaGluPheSerArgCysPheProGlyLeuCysGluGlyLys------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACATAGTCCTCGAGTCCCTGAAGAGAGAGAAGCCAAAGAACCTCTGGTGTTGAAAGGTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ValValValTyrAspGlnSerSerGlnAspValAlaSerLeuSerSerAspCysPheLeu 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GluSerHisPheLeuArqValProValAsnAspSerPheCysGluLysIleLeuProTrp 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGCCGGGAGGTGGGGGGCGCGCATCCGCGGCCTTGGAGCTTGCTACCTCAGCCCATC---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCATCAACGTCACCACTCATCTTCCCCTCTACCACTATGAGAAAGGCCTGTTC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTGGCAATGAGCAGGATGCTCAGGACCTGGACACCATGCAGCGGCTGAACATCGGCTAC
                                                                                                                                                                                                                  3174 PORTER DRIVE
                                                                                                                                                            USA
                                                                                                                                                                                                                                                                                                                                                                                                                    Application US/09016434
                                                                                                                                                                                                                                         INCYTE PHARMACEUTICALS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       - AACTACAAGCGGCTGCCÁGCCACTGÁCÁGCAACAAGCAGAACCTGCGGCAGTAC
                                                                                                                                                                                                                                                                                  1490
  US/09/016,434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SerThrLeuValProThrCysIleSer 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  842
                              5
                                                                          皮
                                                                                                               S
                                                                                                                                                        밁
                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            멼
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       吊
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
Best Local Similarity:
  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-029-345A-109_COPY_1_302 (1-302) x US-09-016-434-1135 (1-2109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; CLONE: g1418933
US-09-016-434-1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: (650) 845-4166 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: Zeller, Karen J.
REGISTRATION UMBER: 37,071
REFERENCE/DOCKET NUMBER: PA
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: nucleic acid
STRANDEDNESS: sing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LIBRARY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH:
                                     159
  964
                                                                                                                                                                                                                                                                              136
                                                                                                                                                                                                                                                                                                                                                            116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         430
                                                                              904
                                                                                                                                                                                                                                                                                                                     730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  610
                                                                                                                                                                                                                                                                                                                                                                                                                                          96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               39 ThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AspIleAspCys---SerGlnLysValValValTyrAspGlnSerSerGlnAsp---Val
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GlnGlnAspLysValLeuIleThrGluLeuIleGlnHisSerAla---LysHisLysVal 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsn
  TCCTTCCCAGTGGAGATCTTGCCCCTTCCTCTACTTGGGCTGTGCCAAAGACTCCACCAAC
                            -----ProThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsn
                                                                              CTGGGGCTCGGGGGCCTGCGGATCAGCTCTGACTCTTCCTCGGACATCGAGTCTGACCTT
                                                                                                                                                                                                                                                                       CysGluGlyLysSerThrLeuValProThrCys---IleSerGlnProCysLeuProVal 154
                                                                                                                                                                                                                                                                                                                                                            AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeu
                                                                                                                                                                                                                                                                                                                                                                                               GAGAATACGGGCGGGGTCGTTGCTCGGGCTGCTCAAGAAGCTCAAGGACGAGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                      AlaSerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCCGGCGCTGTGGCACCGACACAGTGGTGCTCTACGACGAGGAGCAGCAGCAGCGACTGGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCGTCGCACATCGAGTCGGCCATCAACGTGGCCATCCCGGGCATCATGCTGCGGCGCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AlaAsnIleGly-----
                                                                                                                                                                                                                                                                                                                       TGCCGGGCGTTCTACCTGGAAGGTGGCTTCAGTAAGTTCCAAGCCGAGTTCTCCCTGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGAAGGGTAACCTGCCGGTGCGCGCGCCTCTTCACGCGCGAGGACCGGGACCGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2109 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENBANK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (650)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HEREWITH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    single
                                                                                                                                                                                                                                         ----ACCAATCTAGACGGCTCGTGTAGCAGCAGCTCGCCGCCGTTGCCAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2.91e-51
467.50
53.56%
34.06%
29.89%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       855-0555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PA-0002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                รูย
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2109
110
63
105
45
```

뮍 8 문 5 밁 Ś 밁 δ 뮍 S 밁 S 밁 Ş 밁 Ş 뫄 δ 밁 δ 밁 5 В

1023 176 158 903 158 843 789

729

669 95 609

```
RESULT 6
US-09-023-655-946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Patent No. 6607879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
APPLICANT: Cocke, Benjamin G.
APPLICANT: Susan G. Stuart
APPLICANT: Jeffrey J. Seilham
                                                                                      TELEFAX: (650) 845-41
                                                                                                              NAME: Zeller, Karen J.

REGISTRATION NUMBER: 37,071
REFERENCE/DOCKET NUMBER: PA-0
TELECOMMUNICATION INFORMATION:
TELEPHONE: (650) 855-0555
                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: Word Perfect 6.1 for Windows/MS-DOS 6.2 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: COMPOSITION EXPRESSION
                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
                                                                      SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                              FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: FILING DATE: HEREW CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CITY:
                LENGTH: 2109 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
     TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 177 LysGluLeuIleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysPro
::::::::::::::::::||||||||:::||||||
1024 TTGGACGTGTTGGAGGAATTTCGCCATCAAGTACATCTTGAACGTCACCCCCAATTTGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1084 AATCTCTTTGAGAACGCAGGAGAGTTTAAATACAAGCAAATCCCCATCTCGGATCACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1204 AAGAACTGTGGTGTTTGGTACATTGCTTGGCTGGCATTAGCCGCTCAGTCACTGTGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                           94304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PALO ALTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGAAAAAATCCAACATATCCCCTAACTTCAACTTCATGGTCAGCTGCTGGACTTCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGGACGCTG 1392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LysLysIle 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GluLysArgProThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGlu 295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTGGCTTACCTTATGCAGAAGCTCAATCTGTCGATGAACGATGCCTATGACATTGTCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IleAlaTyrIleMetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SerAsnGlyCysValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGCCAAAACCTGTCCCAGTTTTTCCCTGAGGCCATTTCTŤŤČÁŤÁGATGAAĞČČCGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CysGluLysIleLeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAla 235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LysPro---AspPheIleProGluSerHisPheLeuArgValProValAsnAspSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3174 PORTER DRIVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Jeffrey J. Seilhamer VENTION: COMPOSITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INCYTE PHARMACEUTICALS,
                                                                                                                                                                                                                                                                                                                     HEREWITH
                                                                                                        845-4166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1508
                                                                                                                                                                                                                                                                                                                                     US/09/023,655
                                                                                                                                                               PA-0001 US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     THE DETECTION OF BLOOD CELL GENE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; LIBRARY: GENBAN
; CLONE: g1418933
US-09-023-655-946
                                                        밁
                                                                                      δ
                                                                                                                           밁
                                                                                                                                                        δ
                                                                                                                                                                                              밁
                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                 뮹
                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-109_COPY_1_302 (1-302) x US-09-023-655-946 (1-2109)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .
No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IMMEDIATE SOURCE:
                                                                                                                            1144
                                                                                                                                                                                                                                                                  1024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    490
256 IleAlaTyrIleMetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLys
                                                                                                                                                             216
                                                                                                                                                                                                                                                                                                   177
                                                                                                                                                                                                                                                                                                                                     964
                                                                                                                                                                                                                                                                                                                                                                                                       904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      159
                                                                                                                                                                                                                                                                                                                                                                                                                                           158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           610 ACCCGGCGCTGTGGCACCGACACAGTGGTGCTCTACGACGAGAGCAGCAGCGACTGGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19 LeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsn
                                                                                                                         AGCCAAAACCIGICCCAGIITITCCCIGAGGCCATITCITTCATAGAIGAAGCCCGGGGC 1203
                                                                                                                                                                                                                                                                                                                                                                                                          CTGGGGCTCGGGGGCCTGCGGATCAGCTCTGACTCTTCCTCGGACATCGAGTCTGACCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AlaAsnIleGly-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCCGGGCGTTCTACCTGGAAGGTGGCTTCAGTAAGTTCCAAGCCGAGTTCTCCCTGCAT 789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGlyLeu 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlnGlnAspLysValLeuIleThrGluLeuIleGlnHisSerAla---LysHisLysVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCGTCGCACATCGAGTCGGCCATCAACGTGGCCATCCCGGGCATCATGCTGCGGCGCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu
                                                           AAGAACTGTGGTGTTTGGTACATTGCTTTGGCTGGCATTAGCCGCTCAGTCACTGTGACT 1263
                                                                                                                                                      CysGluLysIleLeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAla 235
                                                                                                                                                                                                                                                                                                 LysGluLeuIleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysPro 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAGAATACGGGCGGCGAGTCGTTGCTCGGGCTGCTCAAGAAGCTCAAGGACGACGAGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AlaSerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AspIleAspCys---SerGlnLysValValValTyrAspGlnSerSerGlnAsp---Val 95
                                                                               SerAsnGlyCysValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAla
                                                                                                                                                                                              ARTCTCTTTGAGAACGCAGGAGAGTTTAAATACAAGCAAATCCCCATCTCGGATCACTGG
                                                                                                                                                                                                                                LysPro---AspPheIleProGluSerHisPheLeuArgValProValAsnAspSerPhe
                                                                                                                                                                                                                                                                  TTGGACGTGTTGGAGGAATTCGGCATCAAGTACATCTTGAACGTCACCCCCAATTTGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGCGAG-----ACCAATCTAGACGGCTCGTGTAGCAGCAGCTCGCCGCTGCCAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CysGluGlyLysSerThrLeuValProThrCys---IleSerGlnProCysLeuProVal 154
                                                                                                                                                                                                                                                                                                                                     TCCTTCCCAGTGGAGATCTTGCCCCTTCCTACTTGGGCTGTGCCAAAGACTCCACCAAC 1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGAAGGGTAACCTGCCGGTGCGCGCGCGCTCTTCACGCGCGGGGGGCCGGGACCGGTTC
                                                                                                                                                                                                                                                                                                                                                             -ProThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsn 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2.91e-51
467.50
53.56%
34.06%
29.89%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2109
110
63
105
45
                                                                                                                                                                                                                                    215
                                                                                                                                                                                                                                                                                                                                                                                                          963
                                                                                                                                                                                                 1143
                                                                                                                                                                                                                                                                  1083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    77
```

729

609

549 58 38

```
Ś
                            В
                                                   Ś
                                                                       US-10-029-345A-109_COPY_1_302 (1-302) x US-09-016-434-1100 (1-2240)
                                                                                                              Query Match:
                                                                                                                          Best Local Similarity:
                                                                                                                                                                          Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                       Percent Similarity:
                                                                                                                                                                                                  US-09-016-434-1100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 7
US-09-016-434-1100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              닭
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 11
Patent No.
                                                                                                                                                                                                                                                                                                             TELEFAX: (650) 845-41 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: PA
TELECOMMUNICATION INFORMATION:
TELEPHONE: (650) 855-0555
                                                                                                                                                             No.:
                                                                                                                                                                                                                         IMMEDIATE SOURCE:
LIBRARY: GENBA
                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Word Perfect 6.1 for Windows/MS-DOS 6.2
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Janice Au-Young
APPLICANT: Jeffrey J. Seilhamer
TITLE OF INVENTION: COMPOSITION FOR THE DETECTION OF SIGNALING
TITLE OF INVENTION: PATHWAY GENE EXPRESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                      NAME: Zeller, Karen J. REGISTRATION NUMBER: 37,071
                                                                                                                                                                                                               CLONE:
                                                                                                                                                                                                                                                  TOPOLOGY:
                                                                                                                                                                                                                                                             STRANDEDNESS:
                                                                                                                                                                                                                                                                         TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CITY: PALO ALTO STATE: CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET:
                                                                                                                                                                                                                                                                                   ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1384 AGGACGCTG 1392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1324 ATGAAAAATCCAACATATCCCCTAACTTCAACTTCATGGGTCAGCTGCTGGACTTCGAG
                              234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1264 GTGGCTTACCTTATGCAGAAGCTCAATCTGTCGATGAACGATGCCTATGACATTGTCAAA
      39
                                                    19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1100, Application US/09016434
5. 6500938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      94304
                                            LeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsn
ThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu
                          CTGCCGAGCGGC----GGCAAGTGCCTGCTGCTGGACTGCAGACCGTTCCTGGCGCACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GluLysArgProThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LysLysIle 298
                                                                                                                                                                                                               g1255784
                                                                                                                                                                                                                                                                                   2240 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3174 PORTER DRIVE
                                                                                                                                                                                                                           GENBANK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  USA
                                                                                                                                                                                                                                                   Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INCYTE PHARMACEUTICALS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HEREWITH
                                                                                                                                                                                                                                                            single
                                                                                                                                                                                                                                                                                                                        845-4166
                                                                                                            1e-45
426.00
54.85%
33.44%
27.24%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US/09/016,434
                                                                                                                                                                                                                                                                                                                                                            PA-0002 US
                                                                                                            Mismatches:
Indels:
                                                                                                                                                Length:
Matches:
                                                                                                                                     Conservative:
                                                                                                 64
113
22
9
                                                                                                                                                2240
100
   58
                          290
                                                 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         . 1323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1383
                                                                                                                                                                                                                                    멼
                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                US-09-371-671B-10
                                                                                                                                                                                                            RESULT
                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                 맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
  SOFTWARE:
                                                                                                                                                                                                                                                                                   1005
                                                                                                                                                                                                                                                                                                                                  945
                                                                                                                                                                                                                                                                                                           260
                                                                                                                                                                                                                                                                                                                                                                                  885
                                                                                                                                                                                                                                                                                                                                                                                                         220
                                                                                                                                                                                                                                                                                                                                                                                                                                 825
                                                                                                                                                                                                                                                                                                                                                                                                                                                         200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      97
```

```
TITLE OF INVENTION: TRANSGENIC PLANTS EXPRESS
TITLE OF INVENTION: DUAL-SPECIFICITY MAPK PH
FILE REFERENCE: 00786/370002
CURRENT APPLICATION NUMBER: US/09/371,671B
CURRENT FILING DATE: 1999-08-10
PRIOR APPLICATION NUMBER: 60/155,934
PRIOR FILING DATE: 1999-01-14
PRIOR PILING DATE: 1999-08-10
PRIOR APPLICATION NUMBER: 60/095,938
PRIOR PILING DATE: 1998-08-10
NUMBER OF SEQ ID NOS: 11
                                                                                                                                                                                                                                                                                                              Sequence 10, Application US, Patent No. 6548743
GENERAL INFORMATION:
APPLICANT: Sheen, Jen
APPLICANT: Chiu, Wan-Ling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1065 ATCATCTCGCCCAACTTCAGCTTCATGGGACAGCTGCTGCAGTTCGAGTCCCAGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240 ValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIle 259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      77 ValAspIleAspCysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              59 GlnGlnAspLysValLeuIleThrGluLeuIle-----GlnHisSerAlaLysHisLys
FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ThrīleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIle 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCys 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTAAGGGCTCCGTGAGCCTGGAGGAGGAGCTACCGCCGCCGAGGAGGAGGTACGCGCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCGGGCTACATCCTAGGTTCGGTCAACGTGCGCTGTAACACCATCGTGCGGCGGCGG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGATGAAGAAACGGGTGAGGCTTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCTCCTGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGC 944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PheIleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIle 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGGACGCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAAC---CAC 824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeu 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlnPro-----GlyPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCTGTTCTAAAACCAAGGCCCTGGCAGCCATCCCACCCCGGTTCCCCCCAGCGCCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGCTGGTGCACTGCCAGGCGGCATCTCGCGGTCGGCCACCATCTGCCTGGCCTACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTTGAAGGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTGGAGATCCTTCCCTCTACCTCGGCAGTGCCTACCATGCTGCCCGGAGAGACATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAGCCCTTGGACCTGGGCTGCAGCTCCTGTGGGACCCCACTACACGACCAGGGGGGGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCACCGACATCTGCCTGCAAAGGCGGCTATGAGAGGTTTTCCTCCGAGTACCCAGAA 587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ---AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGCCTCCGCGAGGACAGCACCGTGTCGCTGGTGGTGCAGGCGCTGCGCCGCAACGCCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe---
                                                                                                                                                                                                                                                                                                                                                                                                                                              US/09371671B
   4.0
                                                                                                                                                                                                                                                             EXPRESSING MAPK PHOSPI
                                                                                                                                                                                                                                                             PHOSPHATASE
                                                                                                                                                                                                                                                                AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        347
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-029-345A-109_COPY_1_302 (1-302) x US-09-371-671B-10 (1-944)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-371-671B-10
                                                                                                                                                        ફ
                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Percent Similarity:
                                         밁
                                                                               ક
                                                                                                                           문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 10
LENGTH: 944
TYPE: DNA
ORGANISM: Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .
No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             399 CCTGAGCTGTGCAGCAAACAGTCCACC-----CCCACGGGGCTCAGCCTCCCCCTGAGT 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       159
                                                                                                                                                                                                                                                                                                                                                                                                                           176 AsnLysGluLeuIleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCys 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        513 CAGGGGGGCCCAGTGGAGATCCTGTCCTTCCTGTACCTGGGCAGTGCCTATCACGCTTCT 572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       453 ACTAGTGTGCCTGACAGTGCAGAATCCGGATGCAGCTCCTGTAGTACCCCCTCTCTACGAT 512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            339 GCGCGCTCCACTCAAGTCTTCTTTCTCCCAAGGAGGATATGAAGCGTTTTTCGGCTTCCTGC 398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      113 LysSerPheAsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPhe 132
276 GluLysArgProThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGlu
                                                                                                                                                                236 SerAsnGlyCysValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAla 255
                                                                                                                                                                                                                                                    216 CysGluLysIleLeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAla 235
                                                                                                                                                                                                                                                                                                                                          196 ProLysProAspPheIleProGluSerHisPheLeuArgValProValAsnAspSerPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       95 ValAlaSerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeu-----Glu 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         75 HisLysValAspIleAspCysSerGlnLysValValVyrAspGlnSerSerGlnAsp 94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             55 LysArgArgLeuGlnGlnAspLysValLeuIleThrGluLeuIleGlnHisSerAlaLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99 TTCGCTTTCAACGCCGGCCACATCGCGGGCTCAGTGAACGTGCGCTTCAGCACCATCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                35 ValGluTyrAsnThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMet 54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15 LeuValAlaLeuLeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPhe
                                                                                                                                                                                                                                                                                                                                                                                      CGGAAGGATATGCTTGACGCCTTGGGCATCACCGCCTTGATCAACGTCTCAGCCAATTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGCCGCCTGCTGGCCGGAGCCTACCACGCCGTGGTGCTGGACGAGCGCGCAGCGCCTCC 278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGCGCCGCGCCAAGGGCGCCATGGGCCTTGGAGCATATCGTGCCCAACGCTGAACTGCGT 218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ProGlyLeuCysGluGlyLysSerThrLeuValProThrCysIleSerGlnPro-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGGACGGCGCCAAGCGCACGCACCCTGGCCCTGGCCGCGGGCGCGCTCTGCCGAGAG 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGCGCGCGCTGCTGCGAGAGGGCGCCGCGCAGTGCCTGTTGTTGGATTGTCGCTCCTTC
                                       CTTGCTTACCTCATGAGGACTAACCGGGTAAAGCTGGACGAGGCCTTTGAGTTTGTGAAG
                                                                                 IleAlaTyrIleMetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLys
                                                                                                                             GCTGGAGGGAGAGTGTTTGTTCATTGCCAGGCCGGCATCTCCCGGTCAGCCACCATCTGC
                                                                                                                                                                                                                 AAGGCAGACATCAGCTCCTGGTTCAACGAGGCTATTGACTTCATAGACTCCATCAAGGAT
                                                                                                                                                                                                                                                                                                  CCTAAC---CACTTTGAGGGTCACTACCAGTACAAGAGCATCCCTGTGGAGGACAACCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -----GlyProThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeu 175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3.18e-46
425.00
50.17%
34.32%
27.17%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CysLeuProValAlaAsnIle-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        944
104
48
129
22
                                                                                                                                                                                                                 749
                                                                                                                                                                                                                                                                                                                                          215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98
                                              869
                                                                                   275
                                                                                                                             809
                                                                                                                                                                                                                                                                                                                                                                                      632
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 9
US-08-530-290-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  뮍
밁
                                                               S
                                                                                                                        US-10-029-345A-109_COPY_1_302 (1-302) x US-08-530-290-11 (1-1238)
                                                                                                                                                                                                                                                                                                                                                                                Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                             Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-530-290-11
                                                                                                                                                                                                                                                                                                                                             Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 11 Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: Marshall, Christopher John
APPLICANT: Marshall, Christopher John
APPLICANT: Hughes, David Anthony
APPLICANT: Hughes, David Anthony
TITLE OF INVENTION: Methods for Screening of Substances for
TITLE OF INVENTION: 74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/GB94/00694
FILING DATE: 31-MAR-1994
FRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 9402573.1
FILING DATE: 10-FEB-1994
PRIOR APPLICATION DATA:
APPLICATION UMBER: GB 9307250.2
APPLICATION ON DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF DATA:
APPLICATION OF 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: (415) 576-0300 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER: 08
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/0: FILING DATE: 14-DEC-1995 CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 94111-3834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  930 TCCCAAGTG 938
168 CTGCCGAGCGGC---GGCAAGTGCCTGCTGCTGGACTGCAGACCGTTCCTGGCGCACAGC
                               19 LeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsn 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5958721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bastian, Kevin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LysLysIle 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Application US/08530290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (415) 576-0200
                                                                                                                                                                                                          5.02e-46
425.00
53.85%
33.11%
27.17%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          บร/08/530,290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          34,774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    084611-000000US
                                                                                                                                                                                                                               Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    世.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .30
                                                                                                                                                                                                      1238
99
62
116
22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            929
```

```
APPLICANT: Lodes, Michael...
APPLICANT: Lodes, Michael...
APPLICANT: Fanger, Gary
APPLICANT: Vedvick, Tom
APPLICANT: Carter, Darrick
APPLICANT: Retter, Marc
APPLICANT: Mannion, Jane
APPLICANT: Fan, Liqun
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER
                                                                                                                                                                                                                                                                                                                                             RESULT 10
US-09-702-705-803
                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                      Sequence 803, Application US/09702705 Patent No. 6504010
                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                342
                                                                                                                                                                                                                                                                                                                                                                                                     999 ATCATCTCGCCCAACTTCAGCTTCATGGGGCAGCTGCTGCAGTTCGAGTCCCAGGTG 1055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           282 GCTAAGGGCTCCGTGAGCCTGGAGCAGATCCTGCCCGACGAGGAGGAGGTACGCGCCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         77
                                                                                                                                                                                                                                                                                                                                                                                                                              ThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIle 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ValleuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIle 259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGCTCCTGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAsp 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeu 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAGCCCTTGGACCTGCAGCTCCTGTGGGACCCCACTACACGACCAGGAGGGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LeuCysGluGlyLysSerThrLeu-------------------ValProThrCysIleSer 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ValAspIleAspCysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAla
:::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu
:::||||||
::::::||||:::
GCGGGCTACATCCTAGGTTCGGTCAACGTGCGCTGTAACACCATCGTGCGGCGGCGG---
                                                                                                                       Bangur, Chaitany,
Lodes, Michael A
Fanger, Gary
Vedvick, Tom
Carter, Darrick
Retter, Marc
Mannion, Jane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGATGAAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGC 998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PheIleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGGACGCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAAC---CAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGGAGATCCTTCCTCTACCTCGGCAGTGCCTACCATGCTGCCCGGAGAGACATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlnPro-----AsnIleGlyPro 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCTGTTCTAAAACCAAGGCCCTGGCAGCCATCCCACCCCCGGTTCCCCCCAGCGCCACA 581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCACCGACATCTGCCTGCTCAAAGGCGGCTATGAGAGGTTTTCCTCCGAGTACCCAGAA 521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlnGlnAspLysValLeuIleThrGluLeuIle-----GlnHisSerAlaLysHisLys 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGly 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGCCTCCGCGAGGACAGCACCGTGTCGCTGGTGGTGCAGGCGCTGCGCCGCAACGCCGAG 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTTGAAGGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATC
                                                                                                                                                                                                                                           Wang, Tongtong
Bangur, Chaitanya
                                                                                                                                                                                                                                               Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/702,705
CURRENT FILING DATE: 2000-10-30
NUMBER OF SEQ ID NOS: 1833
SOOTWARE: PastSEQ for Windows Version 3.0
SEQ ID NO 803
LENGTH: 1238
TYPE: DNA
ORGANISM: Homo sapien
US-09-702-705-803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match:
DB:
                                                                                     밁
                                                                                                                     S
                                                                                                                                                                  멍
                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                     뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No.:
                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-029-345A-109_COPY_1_302 (1-302) x US-09-702-705-803 (1-1238)
                                                                                                                                                                                                                                                                                                                              702
                                                                                                                                                                                                                                                                                                                                                                                                          642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               342 TIGCGCTCCGGCCTCTACTCGGCGGTCATCGTCTACGACGAGCGCAGCCCGAGCGCGCCGAG
                                                                                                                                                                                                                                                                                      200
                                                                                                                                                                                                                                                                                                                                                                                                                                            160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                522 TTCTGTTCTAAAACCAAGGCCCTGGCAGCCATCCCACCCCGGTTCCCCCCAGCGCCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   168 CTGCCGAGCGGC---GGCAAGTGCCTGCTGCTGGACTGCAGACCGTTCCTGGCGCACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          225 GCGGGCTACATCCTAGGTTCGGTCAACGTGCGCTGTAACACCATCGTGCGGCGGCGG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  77 ValAspIleAspCysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19 LeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            39 ThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                        ThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlnPro-----AsnIleGlyPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ---AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGly 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGCCTCCGCGAGGACAGCACCGTGTCGCCTGGTGCACGCGCTGCGCCGCAACGCCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTAAGGGCTCCGTGAGCCTGGAGCAGATCCTGCCCGCCGAGGAGGAGGTACGCGCCCGC
                                                                                                               ValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIle
                                                                                                                                                                      AGCTCCTGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGC
                                                                                                                                                                                                                                                                              PheIleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIle
                                                                                                                                                                                                                                                                                                                                                               ileGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAsp
                                                                                                                                                                                                                                                                                                                                                                                                       GTGGAGATCCTTCCTCTACCTCGGCAGTGCCTACCATGCTGCCCGGAGAGACATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAGCCCTTGGACCTGGAGCTCCTGTGGGACCCCACTACACGACCAGGAGGGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCACCGACATCTGCCTGCTCAAAGGCGGCTATGAGAGGTTTTTCCTCCGAGTACCCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GlnGlnAspLysValLeuIleThrGluLeuIle-----GlnHisSerAlaLysHisLys
                                                    MetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgPro
                                                                                           GTGCTGGTGCACTGCCAGGCGGCATCTCGCGGTCGGCCACCATCTGCCTGGCCTACCTG
                                                                                                                                                                                                         LeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCys
                                                                                                                                                                                                                                                 TTTGAAGGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATC
                                                                                                                                                                                                                                                                                                                              CTGGACGCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAAC---CAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5.02e-46
425.00
53.85%
33.11%
27.17%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1238
99
62
116
22
8
                                                          279
                                                                                             938
                                                                                                                                    259
                                                                                                                                                                          878
                                                                                                                                                                                                                 239
                                                                                                                                                                                                                                                       818
                                                                                                                                                                                                                                                                                            219
                                                                                                                                                                                                                                                                                                                                758
                                                                                                                                                                                                                                                                                                                                                                       199
                                                                                                                                                                                                                                                                                                                                                                                                            701
                                                                                                                                                                                                                                                                                                                                                                                                                                                  179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           38
```

В Ş 뮍 S 당 Ş 음 성

밁 5 밁 δ 밁 δ 멍 δ 8 8 밁 Ş 멍 S 밁 5 В 5 밁 5

```
Ś
                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ঠ
                                                                                                                                        S
                                                                                                                                                                           밁
                                                                                                                                                                                                   5
                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; ORGANISM: Homo sapien
US-09-736-457-803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 11
US-09-736-457-803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            문
                    S
                                                        밁
                                                                               S
                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-029-345A-109_COPY_1_302 (1-302) x US-09-736-457-803 (1-1238)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Alignment Scores:
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQ ID NO 803
LENGTH: 1238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 803,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/736,457
CURRENT FILING DATE: 2000-12-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: COMPOSITIONS AND METHODS TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER FILE REFERENCE: 210121.478C15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Retter, Marc
APPLICANT: Mannion, Jar
APPLICANT: Fan, Liqun
APPLICANT: Wang, Aijun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   939
                            135 LeuCysGluGlyLysSerThrLeu-----
                                                                                     116
                                                                                                                   402
                                                                                                                                                                             282 GCTAAGGGCTCCGTGAGCCTGGAGCAGATCCTGCCCGCCGAGGAGGAGGTACGCGCCCGC
                                                                                                                                                                                                                                                                                               225 GCGGGCTACATCCTAGGTTCGGTCAACGTGCGCTGTAACACCATCGTGCGGCGGCGG----
                                                                                                                                                                                                                                                                                                                                                           168 CTGCCGAGCGC---GGCAAGTGCCTGCTGCTGGACTGCAGACCGTTCCTGGCGCACAGC
                                                                                                                                               97
                                                                                                                                                                                                 77 ValAspIleAspCysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAla
                                                                                                                                                                                                                                                                   59 GlnGlnAspLysValLeuIleThrGluLeuIle-----GlnHisSerAlaLysHisLys
                                                                                                                                                                                                                                                                                                                           39 ThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu
                                                                                                                                                                                                                                                                                                                                                                                          19 LeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6509448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Vedvick, Tom
Carter, Darrick
Retter, Marc
Mannion, Jane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bangur, Chaitan
Lodes, Michael
Fanger, Gary
TTCTGTTCTAAAACCAAGGCCCTGGCAGCCATCCCACCCCCGGTTCCCCCCAGCGCCACA
                                                                                     ---AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGly 134
                                                                                                                                              SerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCACCGACATCTGCCTCCAAAGGCGGCTATGAGAGGTTTTCCTCCGAGTACCCAGAA
                                                                                                                   AGCCTCCGCGAGGACAGCACCGTGTCGCTGGTGGTGCAGGCGCTGCGCCGCAACGCCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Wang,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Application US/09736457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tongtong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chaitanya
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5.02e-46
425.00
53.85%
33.11%
27.17%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          THE
                            ---ValProThrCysIleSer 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                    1238
99
62
116
22
8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          THERAPY
                                                                                                                                                                               401
                                                                                                                                                                                                                                                                                                                              58
                                                                                                                   461
                                                                                                                                                                                                                                       341
                                                                                                                                                                                                                                                                     76
                                                                                                                                                                                                                                                                                                                                                            224
                                                                                                                                                                                                                                                                                                                                                                                          38
                                                                                                                                                                                                                                                                                                  281
```

```
S
                           밁
                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 吊
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                   US-10-029-345A-109_COPY_1_302 (1-302) x US-09-614-124B-803 (1-1238)
                                                                                                                               Query Match:
                                                                                                                                           Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                 US-09-614-124B-803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-614-124B-803
                                                                                                                                                                           score:
                                                                                                                                                                                        Pred. No.:
                                                                                                                                                                                                   Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 803, Application US/09614124B Patent No. 6630574 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Wang,
                                                                                                                                                                                                                                                ORGANISM: Homo
                                                                                                                                                                                                                                                              TYPE: DNA
                                                                                                                                                                                                                                                                        LENGTH: 1238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                280 ThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIle 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  999 ATCATCTCGCCCAACTTCAGCTTCATGGGGCAGCTGCTGCAGTTCGAGTCCCAGGTG 1055
                              168 CTGCCGAGCGGC---GGCAAGTGCCTGCTGCTGGACTGCAGACCGTTCCTGGCGCACAGC
 39 ThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu 58
                                                      LeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsn 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PhelleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIle 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTGGAGATCCTTCCCTCCTACCTCGGCAGTGCCTACCATGCTGCCCGGAGAGACATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGCCCTTGGACCTGGAGCTGCAGCTCCTGTGGGACCCCACTACACGACCAGGAGGGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GlnPro-----AsnIleGlyPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GIGCIGGIGCACIGCCAGGCGGCATCICCGCGGTCGGCCACCATCIGCCTGGCCTACCIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGCTCCTGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCys 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGGACGCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAAC---CAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ThrargIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeu 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGATGAAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCCAGC 998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgPro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTTGAAGGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATC
                                                                                                                                                                                                                                               sapien
                                                                                                                 5.02e-46
425.00
53.85%
33.11%
27.17%
                                                                                                                             Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                Gaps:
                                                                                                                1238
99
62
116
22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             159
```

```
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Wang, Tongtong
APPLICANT: Lodes, Michael A.
APPLICANT: Lodes, Michael A.
APPLICANT: Lodes, Michael A.
APPLICANT: Vedvick, Tom
APPLICANT: Carter, Darrick
APPLICANT: Retter, Marc
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
APPLICANT: Mannion, Jane
FILE REFERENCE: 210121.478C12
CURRENT APPLICATION NUMBER: US/09/671,325
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  片
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뮵
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  日
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                        RESULT 13
US-09-671-325-803
                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                    뮻
                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                             Sequence 803, Application US/09671325 Patent No. 6667154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          402
                                                                                                                                                                                                                                                                                                                       939
                                                                                                                                                                                                                                                                                                                                                                             879
                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                  819
                                                                                                                                                                                                                                                                                                                                                                                                                                                             220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  149
                                                                                                                                                                                                                                                                  999
                                                                                                                                                                                                                                                                                                                                                 260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCTGTTCTAAAACCAAGGCCCTGGCAGCCATCCCACCCCGGTTCCCCCCAGCGCCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ValAspIleAspCysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCTAAGGGCTCCGTGAGCCTGGAGCAGATCCTGCCCGCCGAGGAGGAGGAGGTACGCGCCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GlnGlnAspLysValLeuIleThrGluLeuIle-----GlnHisSerAlaLysHisLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCGGGCTACATCCTAGGTTCGGTCAACGTGCGCTGTAACACCATCGTGCGGCGGCGG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCACCGACATCTGCCTGCTCAAAGGCGGCTATGAGAGGTTTTTCCTCCGAGTACCCAGAA 521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ThrarglleLeuProAsnLeuTyrLeuGlyCysGlnargaspValLeuAsnLysGluLeu 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ---AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGly 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGCCTCCGCGAGGACAGCACCGTGTCGCTGGTGGTGCAGGCGCTGCGCCGAACGCCCGAG 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe---
                                                                                                                                                                                                                                                                 AGCTCCTGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTGGAGATCCTTCCCTCTACCTCGGCAGTGCCTACCATGCTGCCCGGAGAGACATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGCCCTTGGACCTGGACTCCAGCTCCTGTGGGACCCCACTACACGACCAGGAGGGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlnPro------CysLeuProValAla-----AsnIleGlyPro 159
                                                                                                                                                                                                                                                                                     ThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIle 298
                                                                                                                                                                                                                                                                                                                     MetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgPro
                                                                                                                                                                                                                                                                                                                                                                             GTGCTGGTGCACTGCCAGGCGGCATCTCGCGGTCGGCCACCATCTGCCTGGCCTACCTG
                                                                                                                                                                                                                                                                                                                                                                                             ValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                          LeuProTrpLeuAspLysSerValAspPheIjeGluLysAlaLysAlaSerAsnGlyCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTTGAAGGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PhelleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIle 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGGACGCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAAC---CAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAsp
                                               FOR
                                                 HH
                                               THERAPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        115
                                                                                                                                                                                                                                                                                                                                                                                938
                                                                                                                                                                                                                                                                                                                                                                                                            259
                                                                                                                                                                                                                                                                                                                                                                                                                                       878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; ORGANISM: Homo US-09-671-325-803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-029-345A-109_COPY_1_302 (1-302) x US-09-671-325-803 (1-1238)
                                                                                                                                                                                                         В
                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                             뫄
                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                         멍
                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                         뮹
                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment Scores
                     S
                                                 망
                                                                   Ş
                                                                                              밁
                                                                                                                          Ş
                                                                                                                                                          8
                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT FILING DATE: 2000-09-26
NUMBER OF SEQ ID NOS: 1825
SOFTWARE: FastSEQ for Windows Ve
SEQ ID NO 803
LENGTH: 1238
TYPE: DNA
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    342
                                                                                                                                                                                                                                                                                                                                                        149
                                                                                                                                                                                                                                                                                                                                                                                   522
                                                                                                                                                                                                                                                                                                                                                                                                                                         462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  168 CTGCCGAGCGGC---GGCAAGTGCCTGCTGCTGGACTGCAGACCGTTCCTGGCGCACAGC
                                                                                                                                                                                                                   702
                                                                                                                                                                                                                                                                                                  160
                        260
                                                                                                                                                                                       200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   19 LeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                  TTCTGTTCTAAAACCAAGGCCCTGGCAGCCATCCCACCCCGGTTCCCCCCAGCGCCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ValAspIleAspCysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GlnGlnAspLysValLeuIleThrGluLeuIle-----GlnHisSerAlaLysHisLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu
                                                                                                                                                                                                                                                                       GTGGAGATCCTTCCCTTCCTCTACCTCGGCAGTGCCTACCATGCTGCCCGGAGAGACATG
                                                                                                                                                                                                                                                                                               ThrargIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeu
                                                                                                                                                                                                                                                                                                                           GAGCCCTTGGACCTGGACTGCAGCTCCTGTGGGACCCCACTACACGACCAGGAGGGTCCT
                                                                                                                                                                                                                                                                                                                                                        GlnPro-----AsnIleGlyPro
                                                                                                                                                                                                                                                                                                                                                                                                            AGCCTCCGCGAGGACAGCACCGTGTCGCTGGTGGTGCAGGCGCTGCGCCGCAACGCCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTAAGGGCTCCGTGAGCCTGGAGCAGATCCTGCCCGCCGAGGAGGAGGAGGAGGACGCCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCGGGCTACATCCTAGGTTCGGTCAACGTGCGCTGTAACACCATCGTGCGGCGGCGG---
       MetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgPro 279
                                               AGCTCCTGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGC 878
                                                                                                                                                                                                                 CTGGACGCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAAC---CAC
                                                                                                                                                                                                                                          IleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ---AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGly 134
                                                                                                                                                                                    PhelleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIle
                                                                                                                               LeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCys 239
                                                                                                                                                            TTTGAAGGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5.02e-46
425.00
53.85%
33.11%
27.17%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1238
99
62
116
22
8
                                                                                                                                                                                                                                                                                                        179
                                                                                                                                                                                                                                                                                                                                                            159
                                                                                  259
                                                        938
                                                                                                                                                                                                                       758
                                                                                                                                                                                                                                                   199
                                                                                                                                                                                                                                                                              701
                                                                                                                                                                                                                                                                                                                                  641
                                                                                                                                                                                                                                                                                                                                                                                         581
                                                                                                                                                                                                                                                                                                                                                                                                                   148
                                                                                                                                                                                                                                                                                                                                                                                                                                               521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   281
                                                                                                                                                                   818
```

```
ঠ
                                                                                                                                                                            밁
                                                                                                                                                                                                        ફ
                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                 ş
                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                            ફ
                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                               ફ
                     S
                                                         밁
                                                                                   ঠ
                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                   문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-029-345A-109_COPY_1_302 (1-302) x US-09-589-184-803 (1-1238)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 14
US-09-589-184-803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; ORGANISM: Homo sapien
US-09-589-184-803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 803, Application US/09589184 Patent No. 6686447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THERAPY AND TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER FILE REFERENCE: 210121.478C8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS: 827
SOFTWARE: FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION NUMBER: US/09/589,184
CURRENT FILING DATE: 2000-06-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 1238
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Хо
::
   582
                                                         522 TTCTGTTCTAAAACCAAGGCCCTGGCAGCCATCCCACCCCGGTTCCCCCCAGCGCCACA
                                                                                                                     462
                                                                                                                                                  116
                                                                                                                                                                               402
                                                                                                                                                                                                                                       342
                                                                                                                                                                                                                                                                                                282 GCTAAGGGCTCCGTGAGCCTGGAGCAGATCCTGCCCGCCGAGGAGGAGGAGGTACGCGCCCGC
                                                                                                                                                                                                                                                                                                                                                       225 GCGGGCTACATCCTAGGTTCGGTCAACGTGCGCTGTAACACCATCGTGCGGCGGCGG----
                                                                                                                                                                                                                                                                                                                                                                                                                   168 CTGCCGAGCGGC---GGCAAGTGCCTGCTGCTGGACTGCAGACCGTTCCTGGCGCACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                939
                                                                                                                                                                                                      97 SerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe---
                                                                                                                                                                                                                                                                 77 ValAspIleAspCysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAla
                                                                                                                                                                                                                                                                                                                            59 GlnGlnAspLysValLeuIleThrGluLeuIle-----GlnHisSerAlaLysHisLys
                                                                                                                                                                                                                                                                                                                                                                                   39 ThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                              19 LeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsn
GAGCCCTTGGACCTGGACTGCAGCTCCTGTGGGACCCACTACACGACCAGGAGGGTCCT
                              GlnPro-----
                                                                                       LeuCysGluGlyLysSerThrLeu-------ValProThrCysIleSer 148
                                                                                                                     CGCACCGACATCTGCCTCCAAAGGCGGCTATGAGAGGTTTTCCTCCGAGTACCCAGAA
                                                                                                                                             ---AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGly 134
                                                                                                                                                                                                                                       ATCATCTCGCCCAACTTCAGCTTCATGGGGCAGCTGCTGCAGTTCGAGTCCCAGGTG 1055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIle 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGATGAAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGC 998
                                                                                                                                                                            AGCCTCCGCGAGGACAGCACCGTGTCGCTGGTGGTGCAGGCGCTGCGCCGCAACGCCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mannion, Jane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Carter, Darrick
Retter, Marc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bangur, Chaitanya
Lodes, Michael A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Panger, Gary
Vedvick, Tom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Wang,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Tongtong
r, Chaitanya S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5.02e-46
425.00
53.85%
33.11%
27.17%
                           ----CγεLeuProValAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1238
99
62
116
22
8
                             ----AsnIleGlyPro
                                                                                                                                                                            461
                           159
                                                          581
                                                                                                                                                                                                         115
                                                                                                                                                                                                                                                                   96
                                                                                                                                                                                                                                                                                                341
                                                                                                                                                                                                                                                                                                                            76
                                                                                                                                                                                                                                                                                                                                                                                      88
                                                                                                                                                                                                                                                                                                                                                                                                                  224
                                                                                                                                                                                                                                                                                                                                                                                                                                               38
 641
                                                                                                                   521
                                                                                                                                                                                                                                                                                                                                                         281
                     Ś
                                                         밁
 밁
                                                                                   8
                                                                                                                                                                                                        Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     吊
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                   ; ORGANISM: Homo US-09-702-705-825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-702-705-825
                                                                                                                                                       US-10-029-345A-109_COPY_1_302 (1-302) x US-09-702-705-825 (1-2064)
                                                                                                                                                                                                                                                                                                                           Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                        FILE REFERENCE: 210121.478C14
CURRENT APPLICATION NUMBER: US/09/702,705
CURRENT FILING DATE: 2000-10-30
NUMBER OF SEQ ID NOS: 1833
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 825
LENGTH: 2064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 825, App. Patent No. 650401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: COMPOSITIONS AND METHODS TITLE OF INVENTION: DIAGNOSIS OF LUNG CANCER FILE REFERENCE: 210121.478C14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA
                                                                                                                                                                                                                                                                                                          Мо
::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              999 ATCATCTCGCCCAACTTCAGCTTCATGGGGCAGCTGCTGCAGTTCGAGTCCCAGGTG 1055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              702
568 GCGGGCTACÁTCCTÁGGTTCGGTCÁÁCGTGCGCTGTAACACCATCGTGCGGCGGCGG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  160 ThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeu 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180 IleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAsp 199
                                                                                                    19 LeuGluSerGlyThrGluLysValLeuLeuIleAspSerArgProPheValGluTyrAsn
                                  39 ThrSerHisIleLeuGluAlaIleAsnIleAsnCysSerLysLeuMetLysArgArgLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fanger, Gary
Vedvick, Tom
Carter, Darrick
Retter, Marc
Mannion, Jane
                                                                            CTGCCGAGCGGC---GGCAAGTGCCTGCTGCTGCAGACTGCAGACCGTTCCTGGCGCACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ThrIleSerProAsnPheAsnPheLeuGlyGlnLeuLeuAspTyrGluLysLysIle 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGCTGGTGCACTGCCAGGCGGCCATCTCGCGGTCGGCCACCATCTGCCTACCTG 938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LeuProTrpLeuAspLysSerValAspPheIleGluLysAlaLysAlaSerAsnGlyCys 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgPro 279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIle 259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGCTCCTGGTTCATGGAAGCCATAGAGTACATCGATGCCGTGAAGGACTGCCGTGGGCGC 878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PheIleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIle 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGGAGATCCTTCCCTTCCTCTACCTCGGCAGTGCCTACCATGCTGCCCCGGAGAGACATG 701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGATGAAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGC 998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGGACGCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAAC---CAC 758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Fan, Liqun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Wang, Tongtong
Bangur, Chaitanya
Lodes, Michael A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Application US/09702705
                                                                                                                                                                                                                                                                                                                                                                                      sapiens
                                                                                                                                                                                                                       1.18e-45
425.00
54.85%
33.44%
27.17%
                                                                                                                                                                                                                       Mismatches:
Indels:
                                                                                                                                                                                                                                                                                Length:
Matches:
                                                                                                                                                                                                   Gaps:
                                                                                                                                                                                                                                                                 Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              THE
                                                                                                                                                                                                 2064
.100
64
113
22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 THERAPY
  624
                                    58
                                                                            567
                                                                                                                     38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             818
```

```
1282
                                                                                                                                                                                                                                                                                                                                                      1222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1102 TTTGAAGGACACTATCAGTACAAGTGCATCCCAGTGGAAGATAACCACAAGGCCGACATC 1161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1045 CTGGACGCCCTGGGCATCACGGCTCTGTTGAATGTCTCCTCGGACTGCCCAAAC---CAC 1101
                                                                                                                                                              260 MetLysArgMetAspMetSerLeuAspGluAlaTyrArgPheValLysGluLysArgPro 279
                                                                                                                                                                                                                                                                            240 ValLeuValHisCysLeuAlaGlyIleSerArgSerAlaThrIleAlaIleAlaTyrIle 259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     200 PhelleProGluSerHisPheLeuArgValProValAsnAspSerPheCysGluLysIle 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180 IleGlnGlnAsnGlyIleGlyTyrValLeuAsnAlaSerTyrThrCysProLysProAsp 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   985 GTGGAGATCCTTCCCTTCCTACCTCGGCAGTGCCTACCATGCTGCCCGGAGAGACATG 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            160 ThrArgIleLeuProAsnLeuTyrLeuGlyCysGlnArgAspValLeuAsnLysGluLeu 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             925 GAGCCCTTGGACCTGGGCTGCAGCTCCTGTGGGACCCCACTACACGACCAGGGGGGGTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               149 GlnPro-----GlyPro 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          865 TTCTGTTCTAAAACCAAGGCCCTGGCAGCCATCCCACCCCGGTTCCCCCCAGTGCCACA 924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  805 CGCACCGACATCTGCCTGCTCAAAGGCGGCTATGAGAGGTTTTCCTCCGAGTACCCAGAA 864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               116 ---AsnSerValHisLeuLeuAlaGlyGlyPheAlaGluPheSerArgCysPheProGly 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    745 AGCTTCCGCGAGGACAGCACCGTGTCGCTGGTGGTGCAGGGCGCTGCGCCGCAACGCCGAG 804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       625 GCTAAGGGCTCCGTGAGCCTGAGCAGCCAGATCCTGCCCGCCGAGGAGGAGGTACGCGCCCGC 684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97 SerLeuSerSerAspCysPheLeuThrValLeuLeuGlyLysLeuGluLysSerPhe--- 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               77 ValAspIleAspCysSerGlnLysValValValTyrAspGlnSerSerGlnAspValAla 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               59 GlnGlnAspLysValLeuIleThrGluLeuIle-----GlnHisSerAlaLysHisLys
                                                                                                                      ATGATGAAGAAACGGGTGAGGCTGGAGGAGGCCTTCGAGTTCGTTAAGCAGCGCCGCAGC 1341
                                                                                                                                                                                                                                      GTGCTGGTGCACTGCCAGGCGGCATCTCGCGGTCGGCCATCTGCCTGGCCTACCTG 1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             984
```

Ś

유

유

8 8 8 8 8 8 8

밁

Search completed: June 22, 2004, 02:46:21 Job time: 66.9628 secs

 유 상 유

S

유성